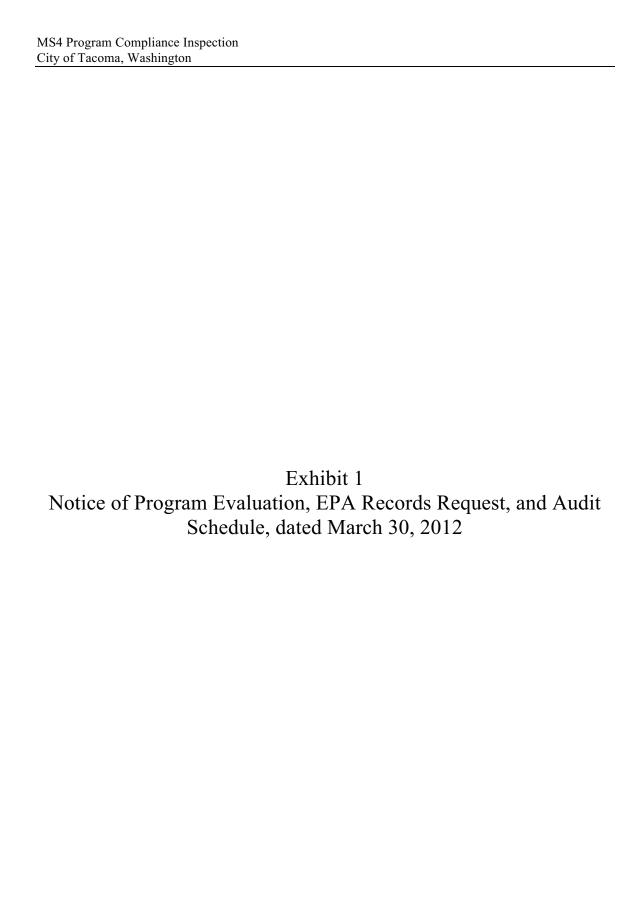
Appendix D Exhibit Log





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 10

1200 Sixth Avenue, Suite 900 Seattle, Washington 98101-3140

MAR 3 0 2012

OFFICE OF COMPLIANCE AND ENFORCEMENT

Reply to OCE-133

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Mike Slevin
Assistant Public Works Director
Environmental Services
City of Tacoma
747 Market Street, Room 408
Tacoma, Washington 98402

Re: City of Tacoma, Washington

Municipal Separate Storm Sewer System

Notice of Program Evaluation /Inspection and Information Request

NPDES Permit Number: WAR04-4003

Dear Mr. Slevin:

The purpose of this letter is to provide you with formal notification that the U.S. Environmental Protection Agency, Region 10 (EPA), will be conducting a focused evaluation and inspection of your Phase I Municipal Separate Storm Sewer System (MS4) program. Representatives from EPA, the State of Washington Department of Ecology (Ecology), and PG Environmental, LLC (PG), a contractor for the EPA, will be present. The program evaluation will be performed pursuant to 40 C.F.R. §122.41(i) and your National Pollutant Discharge Elimination System (NPDES) Permit Number WAR04-4003. The goal of the program evaluation is to determine your overall success and effectiveness in meeting the conditions and requirements contained within the permit.

We have scheduled the inspection for Thursday, May 17, 2012, through Friday, May 18, 2012. We would like to start at 8:00 a.m. at the City of Tacoma's (City's) offices on Thursday, May 17, 2012. The City is asked to provide a suitable location where EPA, Ecology, PG, the City, and other appropriate MS4 permittee staff can meet on Thursday, May 17, 2012, through Friday, May 18, 2012. The program evaluation will consist of interviews with the MS4 permittee staff members, file reviews, and inspections of City operations.

We plan to review the stormwater program procedures and practices of the City and will need appropriate personnel knowledgeable about these specific program areas to be available. Therefore, in an effort to minimize disturbances to staff and ensure that proper personnel (including inspectors) are available, we have prepared a program evaluation agenda for each day (also see electronic file/table attached to email transmittal). The draft agenda serves to schedule this evaluation and to help you identify the appropriate person(s) who should be present during the office and in-field review. We can

make small adjustments to this itinerary to meet schedule conflicts if necessary. In addition, we intend to hold a conference call with you in the weeks preceding the inspection to discuss logistics. Upon conclusion of the program inspection, we will provide an exit interview, during which we can discuss the preliminary findings. All findings will remain preliminary until the delivery of a detailed evaluation report.

To assist with the MS4 evaluation, EPA is requesting the information listed in the attached spreadsheet (see also electronic file/spreadsheet attached to email transmittal). The spreadsheet is intended to be filled-out electronically. EPA is requesting this information pursuant to Section 308 of the Clean Water Act (CWA), 33 U.S.C. §1318.

For the most part, EPA requests that the information be provided during the applicable program element discussions scheduled for Thursday, May 17, 2012. However, Item Nos. 1-4, 10, 24, 29, and 40, which are highlighted in red, must be submitted to the contacts listed below by May 4, 2012, as these are needed to help us understand what can be accomplished during our field exercises. Please provide the completed spreadsheet via e-mail and Item Nos. 1-4, 10, 24, 29, and 40 of the information request via mail or e-mail by May 4, 2012. Note the deadline for your response is intended to allow us some time to review the information that you submit before the inspection takes place. Wherever you are unable to provide a response in the required timeframe, please note that fact in your response. Please be aware that your lack of a response may necessitate a more in-depth investigation of the applicable portions of your stormwater management program. If some of the documents requested are extremely large and not available in electronic format, please have those documents available on-site for review, and indicate which documents you will have available on-site.

Please be aware that some of the items in the attached spreadsheet may not be applicable to the way your particular program is structured. If that is the case, please provide an explanation in the comments field of the spreadsheet and we can discuss in more detail during the inspection. EPA will likely request additional/specific documents during the inspection as we become aware of them (note that the records request contains place holders for anticipated items). A copy of the response should be mailed to both:

Julie Congdon
U.S. EPA, Region 10
1200 6th Avenue, Suite 900, OCE-133
Seattle, WA 98101
congdon.julie@epa.gov

and

Scott Coulson
U.S. EPA Contractor
PG Environmental, LLC
607 10th Street, Suite 307
Golden, CO 80401
scott.coulson@pgenv.com

Failure to provide all the requested information or to adequately explain the basis for such failure, or to make any false material statement or representation in response to this Information Request constitutes a violation of the Section 308 of the CWA. A violation of Section 308 of the CWA may result in an



enforcement action and the imposition of civil and/or criminal penalties or fines as provided under Section 309 of the CWA, 33 U.S.C. §1319, and Title 18 of the United States Code, 18 U.S.C. §1001.

Although the information requested may be submitted to EPA, you are entitled to assert a business confidentiality claim under 40 C.F.R. Part 2, Subpart B. If EPA determines your business confidentiality claim meets the criteria under 40 C.F.R. § 2.208, the information will be disclosed only to the extent described under 40 C.F.R. Part 2, Subpart B. Unless a confidentiality claim is asserted at the time the requested information is submitted, EPA may make the information available to the public without further notice to you.

We look forward to your cooperation with this matter. If you have questions about this inspection, please contact Julie Congdon, Compliance Officer, at (206) 553-2752.

We thank you in advance for your cooperation.

1

Sincerel

Edward J. Kowalski

Director

Enclosures

cc by email: Lorna Mauren

City of Tacoma

Vince McGowan

Washington Department of Ecology

Kathleen Emmett

Washington Department of Ecology

Tentative Agenda for MS4 Program Inspection City of Tacoma, Washington May 17—May 18, 2012

Day	Time	Team 1 Program/Agenda Item	Team 2 Program/Agenda Item
Thursday, May 17,	8:00 am - 9:00 am		m Management Overview (Office)
2012	9:00 am - 10:30 am	_	rogram (Office)—S5.C.9 in Phase 1 Permit
	10:30 am - 12:00 pm	(S5.C.8 in Phase 1 Permit) inc	Discharges Detection and Elimination cluding planning of field logistics for fternoon (Office)
	12:00 pm - 1:30 pm	•	ssion among the EPA Inspection Team nembers
	1:30 pm - 3:00 pm		Source Control Program for Existing Development (Office)— S5.C.7 in Phase 1 Permit
	3:00 pm - 4:00 pm	Operation and Maintenance Program (Field)	Controlling Runoff From New Development and Redevelopment and Structural Stormwater Controls (Office)— S5.C.5 (in part) and S5.C.6 in Phase 1 Permit
	4:00 pm - 4:30 pm	Recap and Logis	tics Planning for Friday
Friday, May 18,	8:00 am - 9:00 am	Illicit Discharge Detection and	Source Control Program for Existing
2012	9:00 am - 12:00 pm	Elimination (Field)	Development (Field)
	12:00 pm - 1:00 pm	Lu	nch Break
	1:00 pm - 3:00 pm	Open Period for Additiona	al Activities ¹ (Tentative time slot)
	3:00 pm - 3:30 pm	Interna	al Discussion ²
	3:30 pm - 4:30 pm	Closing Conferen	nce ³ (Tentative time slot)

participation is not expected.

The City is encouraged to invite representatives from all applicable organizational divisions/departments.

¹ Open Period for Additional Activities – Will be decided by the EPA Inspection Team during the inspection activity in collaboration with City staff. ² Internal Discussion – Time for inspectors to arrange notes and prepare information to be discussed with the City at the Closing Conference. City

Page 1 of 4

EPA MS4 PROGRAM COMPLIANCE INSPECTION - City of Tacoma, Washington May 15-16, 2012 Pre Audit Questionnaire and Records Request

Program 1	Program Management/Kick-off Meeting					
Item No.	Document(s)/Data Requested	Document/Data Provided (please select Yes/No)	Formal Title(s) of Document(s) Provided and Date/Version	Department Responsible for Document(s)	Web Link to Document(s) Provided (Yes/No; please provide web address information)	Data Entry/Additional Information Regarding Requested Item (Comments/Notes)
1	Stormwater Management Program (SWMP) Plan (Version currently operating under)					
2	MS4 Annual Report (most recent Reporting Year)					
ъ	Program organizational chart and/or a description of the departments and personnel involved in the implementation of your MS4 program and their responsibilities					
4	Map of the permitted area and receiving waters, basins, and segments, including any TMDL or 303(d) listed waters					
5	Any formal agreements with other entities or local governments for implementation of your MS4 programs (e.g., memoranda of understanding)					
9	MS4 Annual Expenditure (most recent Fiscal Year)					
r «	MS4 Budget (most recent Fiscal Year) Primary MS4 Funding Source					
6	Number of Major MS4 Outfalls (Indicate Estimated or Measured)					
Operation	Operation and Maintenance					
Please Pro Example: I	Please Provide a Description of the Departments/Divisions Involved in Program Element and Brief Description of Responsibilities: Example: Public Works Engineering Manager - Responsible for facility pollution prevention plan development and oversight.	nvolved in Program Element a facility pollution prevention pla	and Brief Description of Responsibilities: In development and oversight.			
Item No.	Document(s) Requested	Document Provided (please select Yes/No)	Formal Title(s) of Document(s) Provided and Date/Version	Department Responsible for Document(s)	Web Link to Document(s) Provided (Yes/No; please provide web address information)	Additional Information Regarding Requested Item (Comments/Notes)
10	Map/inventory of the City facilities and properties within the permitted area (e.g., road manitenance facilities, stockpile sites, storage and material handling areas, etc.)					
11	Example Facility Stormwater Pollution Prevention Plan (SWPPP) document—EPA Audit Team may select additional sites at the time of the audit					
12	List of all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the City that are covered under the MS4 Permit.					
13	Documentation of policies and procedures to reduce pollutants on Permittee owned lands including: parks, open space, road right-of-ways, maintenance yards, and stormwater treatment and flow controls.					
14	Maintenance Standards developed for stormwater facilities (e.g., catch basins, permanent treatment and flow controls)					
15	Records of inspections and maintenance of City facilities including: pipes and culverts, catch basins, inlets, and ditches (Examples from current Permit term) term)					
16	O & M employee training plan/program, records, and syllabus pertaining to pollution preventiongood housekeeping (most recent Reporting Year)					
17	Any other standard operating procedures used by the City to support this SWMP component					

Illicit Con	Hilicit Connections and Hilcit Discharges Detection and Elimination Frensky province a description of the Detactments/discharges in program element and detectionom	ation over 11 Program Element	and bree vescribition of sessionsidimites:			
Evampla.	Evampla: Public Works Ferriscom antol Division — Demond to age	malainta afilliait diaabawaaa a	nd conduct der waathar caraanina			
Item No.	. Document(s) Requested	Document Provided (please select Yes/No)	Formal Title(s) of Document(s) Provided and Date/Version	Department Responsible for Document(s)	Web Link to Document(s) Provided (Yes/No; please provide web address information)	Additional Information Regarding Requested Item (Comments/Notes)
18	Ordinance(s) or regulatory mechanism(s) prohibiting non-stormwater discharges to the MS4					
19	Procedures for reporting and correcting or removing illicit discharges/connections/spills					
20	Procedures for addressing pollutants entering the MS4 from an interconnected, adjoining MS4					
21	Inventory of reported incidents of illicit discharges/connections/spills and resolution (most recent Reporting Year)					
22	Employee/maintenance personnel training plan/program, records and syllabus pertaining to IDDE (most recent Reporting Year)					
23	At time of audit, provide onsite demonstration of stom drain system mapping tools. Emphasize layers/mapping that informs the MS4 program activities (e.g., storm drain system, structural controls, outfalls, receiving waters, municipality connection points, etc.)					
24	Priority list of conveyances and outfalls in the storm drain system (most recent Reporting Year)					
25	Documentation of Outfall Reconnaissance Inventory including records of outfall inspections/dry weather field screening and monitoring (most recent Reporting Year)					
26	Example/case file of an illicit discharge incident where enforcement was used (ideally full extent of enforcement authority)					
27	Any other standard operating procedures used by the City to support this SWMP component					
Source Co	Source Control Program for Existing Development					
Please Pro Example: 1	Please Provide a Description of the Departments/Divisions Involved in Program Element and Brief Description of Re- Example: Industrial Pretreatment Division - Staff conduct reviews of site plans for source controls and perform inspections.	olved in Program Element . s of site plans for source cont	and Brief Description of Responsibilities: trols and perform inspections.			
Item No.	. Document(s) Requested	Document Provided (please select Yes/No)	Formal Title(s) of Document(s) Provided and Date/Version	Department Responsible for Document(s)	Web Link to Document(s) Provided (Yes/No; please provide web address information)	Additional Information Regarding Requested Item (Comments/Notes)
28	Ordinance(s) or regulatory mechanism(s) requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities					
59	Map/inventory of land uses/businesses that are potential polluters using the categories of land uses and businesses in Appendix 8 of Phase I permit.					
30	Operational source control BMP standards for pollution generating sources at existing land uses and activities					
31	Examples of educational information provided to business sites					
32	Records of inspections completed for pollutant generating sources (Examples from current Permit term)					
33	Procedures for fielding complaint-based responses					
£	Methodology for Self-Certification process (11 applicable)					
35	Documentation for progressive enforcement policy Training records and syllabus for Permittee staff					
36	whose primary duties are implementing the source control program (most recent Reporting Year)					

55	Any other standard operating procedures used by the City to support this SWMP component			
In Additio	In Addition to the Numbered Items Requested Above: Provide Any Other Documents or Tools You Believe Demonstrate Program Development and Structure.	ent and Structure.		
Item No.	Formal Title of Document Provided (including Date/Version)	Department Responsible for Document	Web Link to Document Provided	Additional Information Regarding Document Provided (Comments/Notes)

Exhibit 2 City of Tacoma Response Inventory Submitted May 4, 2012

Page 1 of 8

EPA MS4 PROGRAM COMPLIANCE INSPECTION - City of Tacoma, Washington May 17-18, 2012 Pre Audit Questionnaire and Records Request

	4					-
Item No.	m Document(s)/Data Requested	Document/Data Provided (please select Yes/No)	Formal Title(s) of Document(s) Provided and Date/Version	Department Responsible for Document(s)	Web Link to Document(s) Provided (Yes/No; please provide web address information)	Data Entry/Additional Information Regarding Requested Iten (Comments/Notes)
-	Stormwater Management Program (SWMP) Plan (Version currently operating under)	Yes	Stormwater Management Program (SWMP) - March 2010	Environmental Services, Science Yes; and Engineering http	Yes; http://www.cityoftacoma.org/Page.aspx?hid=14819	
2	MS4 Annual Report (most recent Reporting Year)	Yes	2011 NPDES Annual Report	Environmental Services, Science and Engineering	Yes; http://www.cityoftacoma.org/Page.aspx?hid=8096	
3	Program organizational chart and/or a description of the departments and personnel involved in the implementation of your MS4 program and their responsibilities	Yes	Organizational charts for City divisions and work groups implementing NPDES permit requirements	City-wide	Yes various locations; www.cityoftacoma.org	The NPDES MS4 permit is managed from Public Works, Environmental Services - Science and Engineering Division (Org chart provided). Additional ong charts are provided for supporting Departments and divisions involved in permit compliance.
4	Map of the permitted area and receiving waters, basins, and segments, including any TMDL or 303(d) listed waters	Yes	Maps of Permitted Area and Receiving Waters	Environmental Services, Science Yes; and Engineering	Yes; www.govme.org/Common/gMap/MGMain.aspx	The attached map includes Tacoma's nine watersheds and the 65 asset areas that we evaluate our system under. The web link provided is to our MapGuide system which is the repository for online data for the city. Storm assets and features can be found under the Sewer tab on the left side of the screen.
S	Any formal agreements with other entities or local governments for implementation of your MS4 programs (e.g., memoranda of understanding)	N			No.	Tacoma generally utilizes work relationships and coordination meetings rather than formal agreements with other entities or local governments to implement our MS4 program.
9	MS4 Annual Expenditure (most recent Fiscal Year)	Yes	Surface Water Management Financial Report - December 2011	Environmental Services, Science	No.	Financial report includes expenditures listed on pp.12-13.
7	MS4 Budget (most recent Fiscal Year)	Yes	Excerpts from Environmental Services Five-Year Rate Plan, 2011-2015	Environmental Services, Science and Engineering	No.	
∞	Primary MS4 Funding Source	Yes	Surface Water Management Financial Report - December 2011	Environmental Services, Science and Engineering	No.	Financial report includes revenues listed on pp.12-15.
6	Number of Major MS4 Outfalls (Indicate Estimated or Measured)	No	446 MS4 outfalls.	Environmental Services, Science and Engineering	Yes; http://www.cityoftacoma.org/Page.aspx?hid=209 <u>2</u>	Total count of MS4 freshwater and saltwater outfalls is 446. MapGuide includes outfall locations under the Sewer tab and subfolder Storm Assets (individual).

Please Provide a Description of the Operatments/Divisions Involved in Program Element and Brief Description of Responsibilities:

Please Provide a Description of the Operatments/Divisions Involved in Program Element and Brief Description of Responsibilities:

Environmental Series Sewer Transmission Maniferance Division in Specificons and maintenance and storage facilities and Tacoma Public Utilities - Responsible for operation and maintenance of City.-owned property, some requiring SWPPPs. Environmental Environmental Series Solid Masse Public Masse Public Mories Real Property Services Tracoma Fire Public Assembly Facilities and Tacoma Public Utilities - Responsible for operation and maintenance of City.-owned property, some requiring SWPPPs. Environmental Compliance inspections.

	Yes Yes	
	Yes	
8 8	ν 83	ν 23

Hileit Connection and Elimination

The Services Transmission Maintenance of the Departmental Nivionmental Services Environmental Services Environmental Services Environmental Services Environmental Services Environmental Services Environmental Compliance Section/Environmental Compliance Section/Environmental Services Solid Waste

Division/Streets and Grounds Maintenance Division/Environmental Services Sewer Transmission Maintenance Section/Road Use Compliance Office That Ompliance Office Transmission Maintenance Division/Environmental Services Sewer Transmission Maintenance Escriton/Road Use Compliance Office Transmission Maintenance Division/Environmental Services Sewer Transmission Maintenance Division/Environmental Services Services Sewer Transmission Maintenance Division/Environmental Services Serv

Item		Document Provided		Department Responsible for	Web Link to Document(s) Provided	Additional Information Regarding Requested Item
No.	o. Document(s) Requested	(please select Yes/No)	Formal Litle(s) of Document(s) Provided and Date/Version	Document(s)	(Yes/No; please provide web address information)	(Comments/Notes)
	Ordinance(s) or regulatory mechanism(s) prohibiting non-stormwater discharges to the MS4	Yes	Legal Authority to Control Discharges to and from the MS4		Yes; http://cms.cityoftacoma.org/cityclerk/Files/MunicipalCod/ e/Title12-Utilities.PDE	
19	Procedures for reporting and correcting or removing illicit discharges/connections/spills	Yes	ES Sanitary to Storm Cross Connection Flow Chart - March 2011	Environmental Services, Environmental Compliance	No.	
20		Yes	Emergency Contact Telephone List - Fall 2010 Example South Sound Phase II Permittee Group Agenda and Sign In Sheet		No.	Inspectors responding to illicit discharges refer to emergency contact telephone list to coordinate response. Tacoma hosts regular meetings of surrounding NPDES Municipal Permittees to coordinate SWMP program efforts.
21	Inventory of reported incidents of illicit discharges/connections/spills and resolution (most recent Reporting Year)	Yes	Sample Spills and Complaints Inspection Reports Spills and Complain Inventory 2011 3) 2010 2011 WO Notifications for Redirected Sanitary to Storm Service Connection (included under item 15)	Environmental Services, Environmental Compliance	No.	
22	Employee/maintenance personnel training plan/program, records and syllabus pertaining to IDDE (most recent Reporting Year)	Yes	EPA Introduction to Environmental Crimes Training Sign In Sheet Sign Introduction to Environmental Crimes Training Course Info March 30 2011 List of City-wide field staff with IDDE training A) Email PW Director invitation to City-wide field staff IDDE training Si Environmental Compliance Inspector Training Records	Environmental Services, Environmental Compliance	Νο	Internal website includes IDDE training video for City field staff.
23	At time of audit, provide onsite demonstration of storm drain system mapping tools. Emphasize layers/mapping that informs the MS4 program activities (e.g., storm drain system, structural controls, outfalls, receiving waters, municipality connection points, etc.)	, No	GovME MapGuide Demo	Environmental Services, Science and Engineering	Yes; http://www.govme.org/Common/gMap/MGMain.aspx	Item No. 23 will be addressed with onsite demonstration of mapping tools.
24	Priority list of conveyances and outfalls in the storm drain system (most recent Reporting Year)	Yes	Draft Asset Management Plan STRAP Program Summary TRAP progress to date Asset Area Map	Environmental Services, Science and Engineering	No.	The IDDE program consists of a hierarchy of strucket testing supplemented with an aggressive TV inspection effort named supplemented with an aggressive TV inspection of information of the city asset areas is discussed in the Draft Asset Management Plan (autherlos). STRAN was developed and is deployed based on priorities developed in the asset management plan. A subsequent document, the STRAP Program Summary and Priorities List is also included as well as a spreadsheet detailing our STRAP prograss is also available on the city's Mapfoilide site (link provided under Item 4 above)
25	Documentation of Outfall Recommissance Inventory including records of outfall inspections/dry weather field screening and monitoring (most recent Reporting Year)	Yes	 2011 Smoke Test Results documented in GovME MapGuide. Ecology IDDE Email 4-27-2010 	Environmental Services, Environmental Compliance and Environmental Services, Science and Engineering	Yes; http://www.govme.org/Common/gMap/MGMain.aspx (smoke testing data) and; http://www.cityoftacoma.org/Page.aspx?hid=18041_	Taconna implements on-going field screening of the MS4 by smoke-testing and dye-testing all smitary side severs (and storm connections, if necessary) to identify cross-connections to the storm sewer system. In the Fox Watershed we sample storm, base flow, and stormwater sediment to find IDDE. For Taconna's current outfall monitoring data, please refer to Item No. 2, MS4 Annual Report. Attachment C-1 for Foxs Report with outfall monitoring results. Www.cityoftaconna.org/surfacewater (NPDES Annual Report-Attachment C-1 Thea Foxs and Wheeler-Oxgood Waterways Source Control and Water Year 2011 Stormwater Monitoring Reports.
26	Example/case file of an illicit discharge incident where enforcement was used (ideally full extent of enforcement authority)	Yes	Bill's Towing Complaint Investigation and Inspection Reports Bill's Towing NOV with Civil Penalties Bill's Towing Request for Enforcement	Environmental Services, Environmental Compliance	No.	
27	Any other standard operating procedures used by the City to support this SWMP component	Yes	1) Dye Testing Policy 2) Smoke Testing SOP 3) Smoke Testing Video	Environmental Services, Environmental Compliance	No.	

Source Control Program for Existing Development

Please Provide a Description of the Department Divisions Involved in Program Element and Brief Description of Responsibilities.

Environmental Services Environmental Compliance Section - Staff perform source control inspections of private sites with treatment and flow control devices as well as inventory of potential pollutant generating sites. Staff also provides BMP education and technical assistance to businesses and City staff.

_						_
Item No.	Document(s) Requested	Document Provided (please select Yes/No)	Formal Title(s) of Document(s) Provided and Date/Version	Department Responsible for Document(s)	Web Link to Document(s) Provided (Yes/No; please provide web address information)	Additional Information Regarding Requested Item (Comments/Notes)
28	Ordinance(s) or regulatory mechanism(s) requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities	Yes	See audit item 10. 18.	Environmental Services	Yes; http://cms.cityoftacoma.org/cityclerk/Files/MunicipalCod e/Title12-Utilities.PDF	
29	Map/inventory of land uses/businesses that are potential polluters using the categories of land uses and businesses in Appendix 8 of Phase I permit.	Yes	Inventory of potential pollution-generating sites	Environmental Services, Environmental Compliance	No.	List provided. Also a supplemental explanation regarding Tacoma's development of our inventory is provided and was excerpted from a previous annual report submittal.
30	Operational source control BMP standards for pollution generating sources at existing land uses and activities	Yes	2012 Stormwater Management Manual Vol. IV	Environmental Services, Science Y and Engineering	Yes; http://www.cityoftacoma.org/Page.aspx?hid=1779 <u>1</u>	
31		Yes	1) 2011 Commercial Washing BMPs 2) BMP 4404 Food Wastes 3) BMP 4404 Food Wastes 4) BMP A701 Log Sorting and Handling 5) BMP A702 Log Sorting and Handling 6) DMP 4703 Log Sorting and Handling 6) DMP 2010 Local list of ESC suppliers and cleaning & sweeping services 7) Dog Poop Poster 7) Dog Poop Poster 9) Medical Waste Disposal Cleaning solutions, disinfectants 10) Medical Waste Disposal Locaning solutions, disinfectants 11) Medical Waste Disposal Locaning solutions, disinfectants 12) Small Quantity Generators Haz Waste Collection Flyer Tacoma	ervices, ompliance	Νο	
32	Records of inspections completed for pollutant generating sources (Examples from current Permit term)	Yes	1) List of 2011 Business Inspections 2) Example Business Inspection Reports	Environmental Services, Environmental Compliance	No.	
33	Procedures for fielding complaint-based responses	Yes	 General Inspection Flow chart - Jan 2009 General Pollution Control Response Plan - Sept 2003 Local T MOU Standby Procedures - Nov 2009 A) On Call Checklist - Nov 2007 Spills and Complaints Flow Chart - Jan 2009 	Environmental Services, Environmental Compliance	No.	
34	Methodology for Self-Certification process (if applicable)	No				Tacoma conducts source control inspections and provides inspection reports rather than using a Self-Certification process.
35	_	Yes	Environmental Services Stormwater Compliance Policy - July 2010	Environmental Services, Environmental Compliance	No.	
36	Training records and syllabus for Permittee staff whose primary duties are implementing the source control program (most recent Reporting Year)	Yes	1) Environmental Compliance Inspector Training Records (included under item 22) Environmental Services, 2) 2011 Inspector Meeting agendas and sign-in sheets	ce	No.	
37	Any other standard operating procedures used by the City to support these SWMP components	Yes	1) Claims Process Flow Chart Jan 2009 2) SSO protocols Jan 2012	Environmental Services, Environmental Compliance	No.	

Controlling Runoff From New Development Astructural Stormwater Controls

Please Provide a Description of the Departments/Divisions Involved in Program Element and Brief Description of Responsibilities:

Environmental Services Surface Water Section - Oversees post-construction program element for permanent treatment and flow control facilities. Staff conduct permit reviews of site plans for post-construction controls, update Tacoma's Stormwater Manual, and provide technical assistance to the public, Environmental Compliance inspectors performing construction site inspections for post-construction controls and low impact development BMPs.

Item No.		Document Provided (please select Yes/No)	Formal Title(s) of Document(s) Provided and Date/Version	Department Responsible for Document(s)	Web Link to Document(s) Provided (Yes/No; please provide web address information)	Additional Information Regarding Requested Item (Comments/Notes)
38	All post-construction related ordinance(s) or regulatory mechanism(s) pertaining to permanent stomwater treatment and flow control facilities for new development and redevelopment projects	Yes	Development Regs to control runoff SWMP Tacoma Municipal Code 12.08.090 - Stomwater Management Program	Environmental Services	Ves; http://cms.cityoftacoma.org/cityclerk/Files/MunicipalCod e/Title12-Utilitles.PDF	
39	Design manual for post-construction control	səX	2012 City of Tacoma Stormwater Management Manual	Environmental Services, Science and Engineering	Yes; http://www.cityoftacoma.org/Page.aspx?hid=1779 <u>1</u>	
40	Map/inventory of post-construction stomwater management practices within the City's jurisdiction (differentiating City owned/operated from private)	səX	1) Map of Privately-owned BMPs 2) Inventory of Privately-owned BMPs 2) Inventory of Publically-owned BMPs 2) Purportory of Publically-owned BMPs	Environmental Services, Science and Engineering	Yes; www.govme.org/Common/gMap/MGMain.aspx	Link provided is to the City's Mapguide site. Private BMPs are included on the layer titled Storm BMPs accessible through the tabs on the left side of the screen.
41	Inspection schedule for permanent stormwater treatment and I flow controls inspections, both private and Permittee owned (most recent Reporting Year)	Yes	DRAFT Private Stormwater Facility Inspection Program Summary - April 2012 Environmental Services, Private Stormwater Facility Inspection Work Plan Year 2012 Environmental Complian	30	No.	In 2011, Tacoma was completeing the BMP inspections listed in Item 40. Public BMPs are inspected annually and private BMPs are inspected annually and private BMPs are inspected once during the permit term, per permit requirements included in the Stormwater Management Program. Attached documents refer to the DRAFT private BMP inspection program which is being implemented in 2012.
42	Records of inspection and maintenance activities for post- construction stomwater management practices (Examples from most recent Reporting Year)	Yes	Lity of Taconna Pond & Bioswale Evaluation Forms 2011 Li D. Examples of Private Post Construction Stomwater Controls Inspections Records Annual City Owned Stormwater Device Inspection and Maintenance Memodated 228/2012	1) Environmental Services Transmission Maintenance 2) Environmental Services, Environmental Compliance	No.	
43	Progressive enforcement policy requiring sites to come into compliance	Yes	1) 2009 INTERNATIONAL BUILDING CODE excepts 2) Environmental Services Stormwater Compliance Policy - July 2010 (Included under Item No. 35)	1) Building and Land Use Services 2)Environmental Services, Environmental Compliance	No.	
4	Training records and syllabus for Permittee staff that conduct post-construction stormwater management practice inspections (most recent Reporting Year)	Yes	1.1) Contech Filter Maintenance Training Sign in - Mar 2011 1.2) Pord Maintenance Training Sign in - Feb 2012 1.3) Bayfilter Training Sign-in - Sept. 2011 1.4) Filterra LID Informational Training Sign-in - Sheet- Dec 2011 2) Filterra Biofiltration Systems Training - Apr 2011	Environmental Services, Environmental Compliance Construction	No	
45	List of planned individual projects scheduled for implementation during the term of this permit	səX	Lists)	Environmental Services, Science and Engineering	No.	
46	Description of the prioritization process, procedures and criteria used to select Structural Control Projects	Yes	1) Draft Asset Management Plan (included under tien No. 24) 2) Scope of Stormwater BMP Effectiveness Model Agreement 3) Summary Description of Stormwater BMP Effectiveness Model	Environmental Services, Science and Engineering	No.	

Please Pervide a Description of the Departments/Divisions Involved in Program Element and Brief Description of Responsibilities:

| Please Pervide a Description of the Departments/Divisions Involved in Program Element and Brief Description of Responsibilities:
| Environmental Services Services and Construction Division inspections perform inspections perform construction Division inspections perform construction site inspections perform construction and Environmental Services Environmental Compliance sections perform follow-up enforcement actions.

Item No.	Document(s) Requested	Document Provided (please select Yes/No)	Formal Title(s) of Document(s) Provided and Date/Version	Department Responsible for Document(s)	Web Link to Document(s) Provided (Yes/No; please provide web address information)	Additional Information Regarding Requested Item (Comments/Notes)
47	All construction-related ordinance(s) or regulatory mechanism(s) pertaining to erosion, sediment, and waste control	Yes	1) 2009 INTERNATIONAL BUILDING CODE excerpts (included under item No. 43) 18. Legal Authority to Control Discharges to and from the MS4 (See audit item no. 18) 18. Tacoma Municipal Code 2.02.370 - Grading Code 19. Tacoma Municipal Code 12.08.080 - Prohibited stormwater discharges 19. Tacoma Municipal Code 12.08.090 - Stormwater Management Program (included under item No. 38) (included under item No. 38)	Various City Departments	Ves; http://cms.cityoffacoma.org/cityclerk/Files/MunicipalCod e/Title12-Utilities.PDF	
48	Construction BMP Manual	Yes	2012 Stormwater Management Manual, Vol. II	Environmental Services, Science and Engineering	Yes; http://www.cityoftacoma.org/Page.aspx?hid=17791	
49	Map/inventory of current active construction sites in the permitted area showing location (differentiating City sponsored from private projects)	Yes	Inventory of active private construction sites Inventory of active Public Works construction sites	Environmental Services, Science and Engineering	Yes; http://www.govme.org/Common/govME/MyTacoma/City Projects.aspx	
20	Documentation showing process of permits, plan review, inspections, and enforcement capability	Yes	L.1) Building inspection and code enforcement process flow chart L.2) Overall commercial permitplan review process flow chart L.3) Permit and plan review process flow chart Private development work order permit review process flow chart	1) Building and Land Use Services 2) Construction	No.	
51	Construction inspection records (most recent Reporting Year)—EPA Audit Team will select specific sites at the time of the audit	Yes	2011 Erosion Control Inspections performed by Building Inspectors 2) 2011 Erosion Control Inspections performed by Construction Inspectors 3) 2011 Erosion Control Inspections performed by Enviro Compliance Inspectors		No.	
52	Non-Compliance Enforcement Strategy	Yes	1) 2009 INTERNATIONAL BUILDING CODE excerpts (Included under Item No. 1) Building and Land Use Storious Storious Storious Services Stormwater Compliance Policy - July 2010 (Included "Derviconnental Services, Inder Item No. 35) Environmental Compliance Policy - July 2010 (Included "Derviconnental Compliance Inder Item No. 35)	9	No.	
53	Example/case file of a construction site issue where enforcement of regulatory mechanism was used (ideally full extent of enforcement authority)	Yes	Holiday Inn Express inspection report and warning letters	Environmental Services, Environmental Compliance	No.	
55	Documentation of education / training for City staff who conduct plan reviews, inspections, etc.	Yes	Lists of CESCL trained personnel List of 2011-2012 ESSE plan review staff meeting agendas and attendees Z.1) Various Plan Review and Inspector Training Sign-in Sheets	Environmental Services, Environmental Compliance Environmental Services, Science and Engineering	No.	
55	Any other standard operating procedures used by the City to support this SWMP component	Yes	City of Tacoma Public Works Department Design Manual - April 2004	Public Works Engineering	Yes; http://govme.cityoftacoma.org/download/PDF/Code/200 4DesignManual1.pdf	

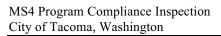
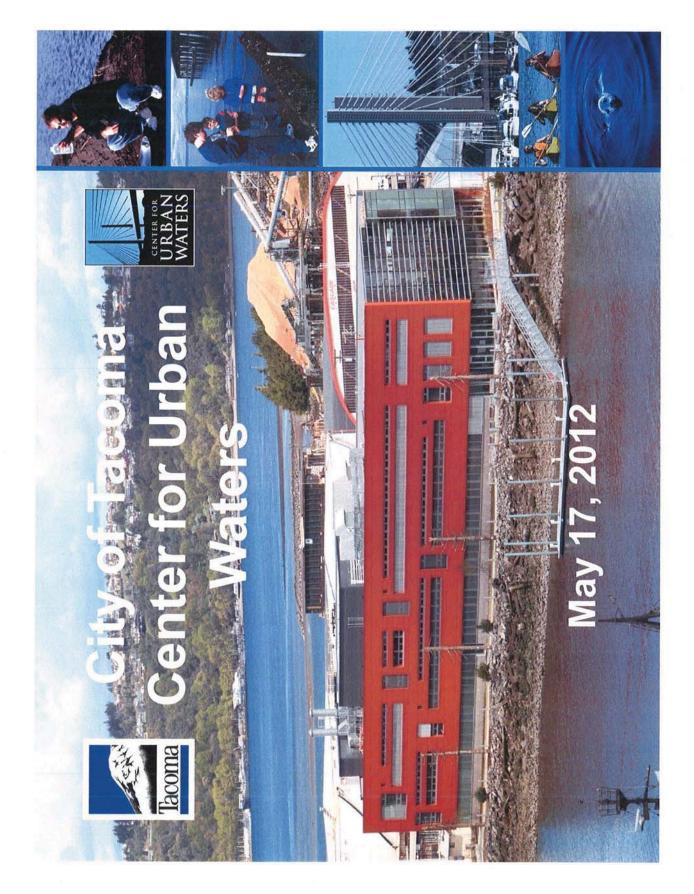
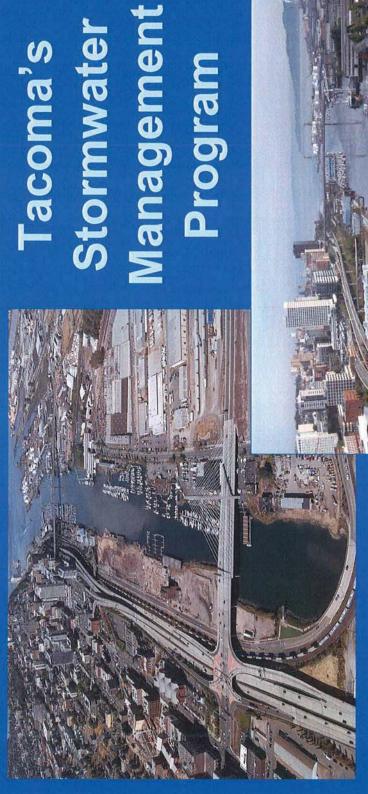


Exhibit 3
Tacoma Stormwater Management Program Presentation, dated
May 17, 2012





1999 and present Waterway Thea Foss

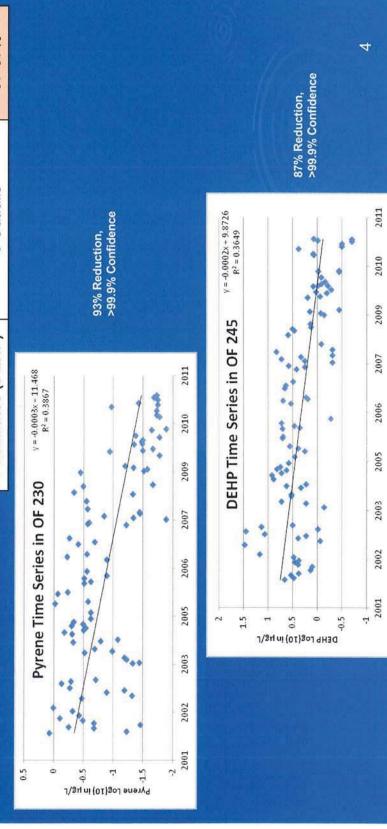
Background

- > 1985 Foss Waterway Declared a Superfund Site
- 1995 First MS4 NPDES Permit
- agreement known as the Foss Source Control Strategy 2001 – City, EPA and Ecology entered into an
- Aggressive source control paired with monitoring
- Program intent to prevent recontamination
- 2006 Cleanup of the waterway complete (\$105 million)
- 2007 Second MS4 NPDES Permit
- Tacoma's Foss program used as a model
- Current 10 years of monitoring data from 7 outfalls show Tacoma's program is successful.

Monitoring Results – Year 10

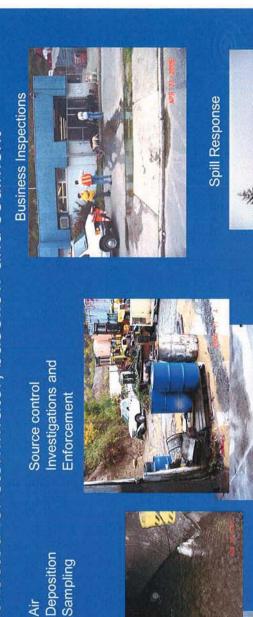
> 37 out of 49 tests show decreasing concentrations

Reduction of Sto	Reduction of Stormwater Concentrations in 10 years	10 years
Chemicals Solids	Outfalls 230, 235, 237A, 237B	44-67%
Metals	Varies	41-51%
PAHs	All 7 Outfalls	%26-08
Phthalates (DEHP)	6 Outfalls	22-87%



Source Control / Monitoring

- Source Control, Spill response, Business Inspections
- Sampling to determine progress
- 7 outfalls and in associated tributary areas
- Samples collected for stormwater, baseflow and sediment



Sediment Traps



2



Research/Testing

Testing media filtration
 stormwater treatment
 technologies at WSDOT facility

BMP effectiveness testing on two biofiltration facilities and two bioinfiltration (rain garden) facilities



Testing pervious pavements to evaluate flow and water quality performance



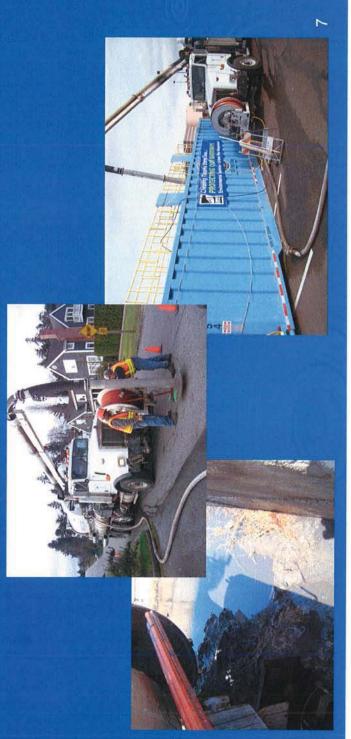
8

Enhanced Maintenance

Two purposes:

- Preparation for TV inspection of oldest pipe for rehabilitation project.
- Find out if we could affect chronic contaminants that defied our source control and source tracing efforts.

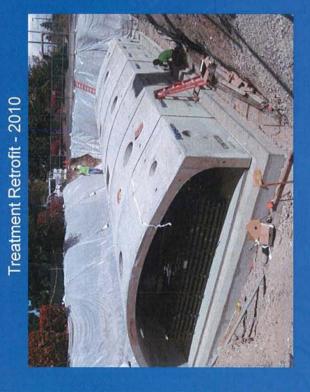
- \$300,000 initial effort
- 150,000 feet cleaned
- Improved 600 acres
- Continuing to monitor to determine return interval

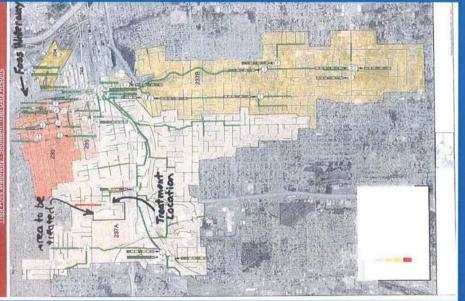


Capital Projects - The Final Step

In spite of source control, identification and removal of a leaking fuel line and system cleaning... one area was still high in PAHs.

NOW... a capital project!





00

City of Tacoma

MS4 Facts
50 acres
pop. 200,000
9 watersheds

578 miles of pipe 400 outfalls 11,000 manholes 22,500 catchbasins Annual Budget \$28 million (2011)
Typical Single Family Charge \$17.00/mo

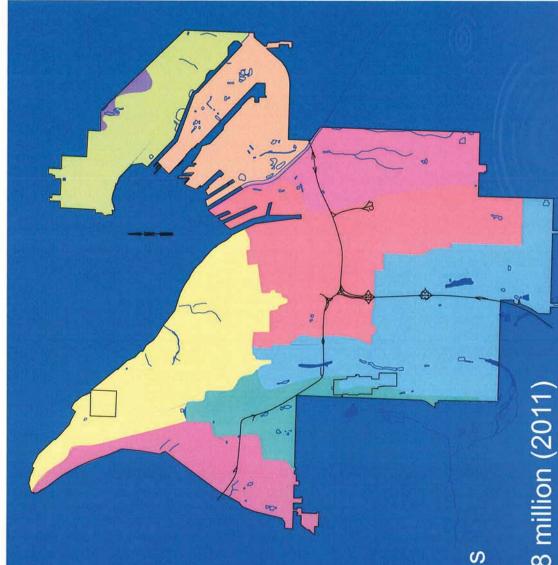


Exhibit 4
Water Distribution Operations Center Stormwater Pollution
Prevention Plan (SWPPP), dated March 31, 2011



Stormwater Pollution Prevention Plan (SWPPP)

Water Distribution Operations Center 3506 South 35th Street Tacoma, WA 98409-3192

March 31st, 2011

Table of Contents

Intro	duction		2
1.0	Store	mwater Pollution Prevention Plan	3
	Purpose and Objectives		
	1.1	Legal Foundation	3
	1.2	SWPPP Location and Accessibility	4
	1.3	SWPPP Review, Revisions, and Implementation	4
	1.4	Recordkeeping	4
2.0	Facility Description		5
	2.1	Site Description	5
	2.2	Map	6
	2.3	Inventory of Materials	6
	2.4	Site Operation	7
3.0	Operational BMPs		7
	3.1	Good Housekeeping	8
	3.2	Employee SWPPP Training	9
	3.3	Prohibitions of Practices	10
	3.4	Regular Site Inspections	10
4.0	Source Control BMPs		12
	4.1	BMP A101 - Cleaning or Washing of Tools, Engines,	
	and Manufacturing Equipment		13
	4.2	BMP A103 – Washing, Pressure Washing,	
	and Steam Cleaning of Vehicles/Equipment/Building Structures		13
	4.3	BMP A201 - Loading and Unloading Areas for Solid and	
		Liquid Material	13
	4.4	BMP A204 Mobile Fueling of Vehicles and	13
		Heavy Equipment	
	4.4	BMP A409 – Parking and Storage for Vehicles and	
	Equipment		13
		- Site Map	14
Appe	Appendix B – Inspection Checklist		
Anne	andiy C	- Source Control BMPs	17

Introduction

The City's National Pollutant Discharge Elimination System (NPDES) Phase 1 Municipal Stormwater Permit requires Stormwater Pollution Prevention Plans (SWPPPs) for qualifying facilities owned or operated by the City of Tacoma or Tacoma Public Utilities within City limits. SWPPPs are a key component for the protection of stormwater quality from pollution generating activities at work sites. SWPPPs are also effective employee training tools for Best Management Practices (BMPs).

The portion of the SWPPP that will be most applicable for daily activities can be found in the Operational BMPs and Source Control BMPs. The information in these sections is important and *must* be implemented. Some areas will be **bolded** and *italicized* so they stand out and get noticed. Please pay careful attention to these areas and ask for clarification about anything that is unclear. Tacoma Water's success in implementing this required plan is dependent upon all employees understanding what is expected of them and that they accept personal responsibility for protecting stormwater quality.

1.0 Stormwater Pollution Prevention Plan Objectives

The major objectives of this SWPPP are:

- To identify pollutant sources and implement Best Management Practices (BMPs) that will minimize their contact with stormwater.
- To prevent violations of surface water and groundwater quality
- · To meet the requirements of the City of Tacoma's NPDES Municipal Stormwater Permit

1.1 Legal Foundation

Effective February 16th of 2007, the Washington State Department of Ecology issued the current Phase I Municipal Stormwater Permit, a National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit, for discharges from Large and Medium Municipal Separate Storm Sewer Systems.

To comply with provisions of the State of Washington's Water Pollution Control Law (Chapter 90.48 Revised Code of Washington) and the Federal Water Pollution Control Act (The Clean Water Act) Title 33 United States Code, Section 1251 et seq., the City of Tacoma was compelled to apply for and is expected to adhere to all conditions of the NPDES Phase I Municipal Stormwater Permit.

The NPDES Phase I Municipal Stormwater Permit requires the City of Tacoma to develop and implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards and material storage facilities owned or operated by the City in areas subject to this permit that are not already covered by another Ecology issued stormwater discharge permit. The SWPPP contains information on all the Best Management Practices (BMPs) that will be employed at these facilities.

1.2 SWPPP Location and Accessibility

This SWPPP will be maintained by Tacoma Water's Operations Manger, Robert Walker (253-502-8928) in his office at 3506 South 35th Street, Tacoma, WA 98409-3192. It is available for review during normal business hours, Monday through Friday from 7:00 to 4:30.

In addition, Tacoma Water's Environmental Compliance section will maintain a master file at the ABN 3NW, 3506 South 35th Street, Tacoma, WA 98409. For information, contact Mike Rhubright, Sr. Environmental Specialist, at (253) 502-8520.

1.3 SWPPP Review, Revisions, and Implementation

Tacoma Public Utilities' Environmental Compliance section will periodically review the SWPPP to ensure that it is kept current and is updated as necessary to reflect pertinent changes to the facility operation. The SWPPP may be amended to reflect the modification or addition of BMPs intended to protect surface water quality. This SWPPP may be amended at any time by either the Operations Manager or the Environmental Compliance section; however, all revisions must be agreed upon by both parties prior to implementation.

1.4 Recordkeeping

Tacoma Water's Environmental Compliance section will maintain a file which will contain the SWPPP, copies of all inspection reports, and any other relevant documents, photos, or written correspondence. This includes any enforcement actions or correspondence regarding this property from any regulatory agency. The file may be reviewed by contacting Tacoma Water's Environmental Compliance section via e-mail to Mike Rhubright at mike-rhubright@citvoftacoma.org or by interoffice courier to the ABN 3NW, 3506 South 35th Street, Tacoma.

2.0 Facility Description

General information related to this facility:

Owner Name:

Tacoma Public Utilities 3506 South 35th Street Tacoma, WA 98409-3192

Facility Name:

Tacoma Water

Facility Address:

3506 South 35th Street Tacoma, WA 98409

Parcel #s:

0320182003, 0320182002, 4640000060 and 4640000020 4640000040,

Approximate Parcel Area:

8.92 Acres (388,825 Sq Ft)

Drainage Basin:

Flett Creek

Outfall:

South Tacoma Channel



Tacoma Water Distibution Operations Center Stormwater route to the South Tacoma Channel

2.1 Site Description

The Tacoma Waters Operations Facility is located at 3506 South 35th Street and is located within the Flett Creek Drainage Basin and South Tacoma Groundwater Protection District

The site covers approximately 8.92 acres and is primarily paved with asphalt. It drains to a series of catch basins that are connected to municipal stormwater system which ultimately discharges to the South Tacoma Channel.

2.2 Site Map

The site map (see Appendix A) identifies stormwater drainage areas and discharge points as well as specific industrial activities that could impact stormwater quality.

2.3 Inventory of Equipment and Materials

The inventory of equipment and materials is a list of those things at the site that are exposed to precipitation or run-off <u>and</u> have the potential to impact stormwater quality. These materials and equipment include, but are not limited to:

- Waste Oil
- Spent Anti-freeze
- Gravel Stockpiles
- Spent Fluorescent Bulbs
- Scrap Metals

- Water Service Trucks
- Miscellaneous Fleet Vehicles
- · Heavy Equipment
- Metal and PVC pipes
- Spare Parts

2.4 Site operation

Tacoma Water Operations Facility

Tacoma Water serves approximately 160,000 residential and wholesale customers throughout Pierce and King Counties. The Tacoma Water Distribution operations Center maintains and operates the City's potable water infrastructure within Tacoma's extended service area. The facility contains a tool room and maintenance shop to support Tacoma Water activities. The Fleet Services Shop located at Tacoma Power's Utility Center on the adjacent property is responsible for repair and maintenance work on all Tacoma Water service trucks, heavy equipment and light duty vehicles. Additionally, all small tools and equipment are maintained at Fleet Services.



3.0 Operational BMPs

Every business in Tacoma is required to use BMPs as outlined in the City's Surface Water Management Manual. Site management practices that prevent or reduce the introduction of pollutants into stormwater are collectively known as "Operational BMPs". Some common operational BMPs that should be considered for all activities at Tacoma Water include:

- Avoid the activity or reduce its occurrence.
- · Move the activity indoors if possible.
- Clean up spills quickly.
- Use less material.
- Use the least toxic materials available.
- · Keep storm drain system clean.
- · Reduce, reuse, and recycle as much as possible.
- Sweep or vacuum to control dust.
- Be an advocate for stormwater pollution prevention.
- Report violations to Tacoma Power's Environmental Compliance section.

The primary operational BMPs currently in use at Tacoma Water are as follows:

- 3.1 Good housekeeping
- 3.2 Employee (SWPPP) training
- 3.3 Prohibition of practices
- 3.4 Regular site inspection and record-keeping
- 3.5 Spill Prevention and Cleanup

3.1 Good Housekeeping

Good housekeeping is the cornerstone of surface water quality protection. It is the single most important BMP because it does the best job of protecting water quality for the least amount of money. Good housekeeping begins at the entrance gate and continues throughout the entire facility. There is simply no better way to protect water quality.

All employees must take an active role in keeping the yard clean.

Sweeping

The driveway, parking areas, and other paved surfaces must be swept regularly to prevent the accumulation of dust and dirt. The frequency of sweeping will vary depending on how dirty the yard appears. A regenerative air sweeper is best for cleaning paved surfaces. Operators must engage all water sprinkler heads to minimize airborne dust when sweeping Tacoma Water property. In areas where the sweeper cannot get to, hand sweeping should be performed often enough to prevent the accumulation of dust, dirt, or debris.

Storage

All materials, supplies, spare parts, and small equipment (whether working or not- this includes new transformers and scrap electrical equipment pending surplus designation) shall be stored on pallets or shelving, where possible, so as to prevent contact with surface water. Anything that could produce an oily sheen or that could release contaminates must also be repaired, covered or otherwise protected from contact with rain and/or snow.

All flammable materials shall be stored under cover on a containment pallet or within an approved flammable liquid storage cabinet, in accordance with the International Fire Code and Tacoma Municipal Code Chapter 3.02.

Hydraulic and Motor Oil

Many of the line trucks and other pieces of equipment in the Operations Facility yard have hydraulic reservoirs. There are also many attachments and small pieces of equipment that rely on hydraulics for their operation. It is commonly known that mobile hydraulic equipment is prone to leaks. To reduce the amount of leakage:

- Always connect the male and female ends of hydraulic lines together when not in use.
- Visually inspect all vehicles and equipment for oil leaks before starting the engine.

- Do not top off fuel tanks when filling; spills can occur when fuel expands due to sunlight exposure.
- > Clean up all leaks and spills immediately and report them to your supervisor.
- City of Tacoma vehicles should not be leaking fluids, for any reason, at any time.
 Fix all leaks promptly.

Note: minor spotting on the pavement is an unfortunate and unpreventable reality of heavy equipment and large trucks. Use drip pans, absorbent pads, floor dry, Absorbat® or similar products to capture small drips. Monitor the drip and report any increase as soon as it becomes apparent.

Spill Response

All spills must be reported to your supervisor and cleaned up immediately. There are covered containers of floor dry, Absorbal®, or similar products made of granular materials, located throughout the Facility and Maintenance Shop that can be used to clean up or contain spills. There is also a large yellow comprehensive spill kit inside the Tool Room. This kit contains absorbent pads and booms, plastic bags, and personal protective equipment.

Any spills that discharge into any stormwater catch basin must be reported immediately!

During regular working hours: Contact the Tacoma Power Environmental Compliance section.

- Russell Post, Environmental Compliance Manager 253-502-8300 / cell 253-208-1154
- Sam Rupert, Senior Environmental Specialist 253-502-8513 / cell 253-381-7748
- Mike Rhubright, Senior Environmental Specialist 253-502-8520 / cell 253-606-4919

Tacoma Power Environmental Compliance staff will contact The State Department of Ecology or City of Tacoma Public Works where appropriate. If in-house clean-up efforts are insufficient, Environmental staff will contact Tacoma Power's emergency on-call environmental contractor for additional support. If Tacoma Power Environmental staff is unavailable, call the Public Works Environmental Services Source Control Pager at (253) 428-2721. You will be prompted to enter your call-back phone number. Enter your complete phone number and then hang up. You should be contacted within 15 minutes or less. If you do not get a response, please call again. If you still do not get a response, call Public Works Emergency Dispatch directly at (253) 581-5595.

For spills occurring after hours: contact Tacoma Power Dispatch at 253-502-8602 and request that they call Environmental Compliance staff. Remember to document:

- · what material entered the catch basin
- · where the spill occurred
- · how much material spilled into the storm system

Garbage and Waste Materials

Trash cans and dumpsters are located throughout the Tacoma Water's Operations Facility. They should be monitored and emptied regularly. Pick up litter when you see it and dispose of it properly.

All trash cans and dumpsters must be covered or closed at all times to prevent contact with rain water.

Integrated Pest Management

The City of Tacoma has established an Integrated Pest Management (IPM) program to guide its response to pests. Pests include such things as undesirable vegetation, rodents and insects. IPM is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. IPM programs use current, comprehensive information on the life cycles of pests and their interaction with the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment.

3.2 Employee SWPPP Training

All applicable Facilities Maintenance and Fleet Services Shop employees will receive SWPPP training and updated information annually. The Department Training Representative shall keep and maintain a record of all SWPPP training.

3.3 Prohibition of Practices

- Do not dump any material into Tacoma Water stormwater catch basins.
- All vehicle or equipment washing must occur on the dedicated washpad

3.4 Regular Site Inspection

The Tacoma Water yard shall be inspected by the Senior Environmental Specialist, or his designee, at least once each month. Discrepancies shall be reported to the Operations Manger if the problem originates from the shop. Discrepancies shall be rectified as soon as possible and the Operations Manager shall report back to Power's Environmental Compliance section upon completion.

An inspection report template is attached as Appendix B. All inspection reports shall be reviewed by Tacoma Water's Environmental Compliance Manager

The oil/water separator associated with the Water Distribution Operations Center wash pad should be inspected once a quarter or every time the exterior of the facility is inspected per this Stormwater Pollution Prevention Plan. Inspection of the separator is accomplished by removing the manhole cover and probing the sediment layer and floating oil scum with a long rod or stick. Use water-finding paste or a hollow tube to measure the oil level.

- Have the separator pumped and cleaned when the sediment level is 20% of the total depth or greater.
- Any visible oil, other than sheen, floating on the surface should be immediately removed by skimming or with absorbent pads. Oil that floats on water for any length of time may emulsify and become unrecoverable. Antifreeze, degreasers, and detergents will hasten this.
- Have the separator pumped and cleaned when the oil scum layer is 2" or more in depth.
- Record your findings in a log with the date and your initials.

4.0 Source Control BMPs

As the name implies, Source Control BMPs are intended to reduce or minimize contact between contaminants and stormwater runoff by controlling them at the source. Source Control BMPs are physical, structural, or mechanical devices that are used to capture and retain pollutants before they begin to move away from their point of origin. In other words, they help to prevent pollution from contacting stormwater in the first place. Source Control BMPs can be found in Volume IV of the City of Tacoma's Surface Water Management Manual.

Many of these BMPs are common sense and "housekeeping" issues. For example, hand sweeping an indoor or outdoor work area instead of using a hose to wash it into a storm drain or other drainage conveyance. The use of source control BMPs is always the first line of defense in stormwater pollution prevention efforts for the following reasons:

- Most source control BMPs are relatively inexpensive and easy to implement.
- In the majority of cases, source control BMPs are all that is needed to prevent stormwater pollution problems.
- Removing pollutants from stormwater is very expensive and often ineffective. It may not be possible to remove 100% of the pollution from stormwater. It is much better to use source control BMPs and prevent the pollution from contacting stormwater in the first place.

The following Source Control BMPs were selected from The City of Tacoma's Surface Water Management Manual for implementation at Tacoma Water. The complete text of these BMPs is included as Appendix B.

BMP A101	Cleaning or Washing of Tools, Engines, and Manufacturing Equipment
BMP A103	Washing, Pressure Washing and Steam Cleaning of Vehicles/Equipment/Building Structures
BMP A201	Loading and Unloading Areas for Liquid and Solid Material
BMP A204	Mobile Fueling of Vehicles and Heavy Equipment
BMP A409	Parking and Storage for Vehicles and Equipment

A101 Cleaning or Washing of Tools, Engines, and Manufacturing Equipment

Cleaning and pressure washing of engines, equipment, and portable objects is allowed at the Fleet Services Shop Use the dedicated wash pad at the southwest end of the shop and make sure no wash water discharges outside of the covered containment area. The wash pad drains to an oil/water separator that discharges to the City's sanitary sewer system instead of the stormwater system.

 Use the least amount of soap or detergent as practicable in order to prevent oil and grease from emulsifying in the oil/water separator.

A103 Washing, Pressure Washing and Steam Cleaning of Vehicles/Equipment/Building Structures

Exterior vehicle washing, pressure washing, and steam cleaning are allowed in the Fleet Services Shop. Use the dedicated wash pad at the southwest end of the shop and make sure no wash water drains to the stormwater catch basin outside of the covered containment area. That pad drains to an oil/water separator that discharges to the City's sanitary sewer system instead of the stormwater system.

 Use the least amount of soap or detergent as practicable in order to prevent oil and grease from emulsifying in the oil/water separator.

A201 Loading and Unloading Areas for Liquid or Solid Material

Material Stockpiles such as crushed rock, scrap wood, tires or pole butts must be stored so that no trash, sediment or petroleum products discharge into the storm drainage system. Transfer and storage areas must be swept to reduce material track out.

A204 Mobile Fueling of Vehicles and Heavy Equipment

Mobile fueling, also known as fleet fueling, wet fueling, or wet hosing, is the practice of filling fuel tanks of vehicles by tank trucks that are driven to the yards or sites where the vehicles to be fueled are located. Mobile fueling is only conducted using diesel fuel, as mobile fueling of gasoline is prohibited. Diesel fuel is considered a Class II Combustible Liquid, whereas gasoline is considered a Flammable Liquid. Tacoma Water uses a permitted mobile fueling service, SC Fuels to fill up miscellaneous diesel fleet trucks and heavy equipment. All mobile fueling takes place after hours.

A409 Parking and Storage for Vehicles and Equipment

Parked vehicles and equipment can be sources of toxic hydrocarbons and other organic compounds, oils and greases, metals, and suspended solids. Sweep (Vacuum sweeping is preferred) parking lots, storage areas, and driveways regularly to collect dirt, waste, and debris.

Appendix C

Source Control BMPs (Excerpted from City of Tacoma Surface Water Management Manual)

A101: Cleaning or Washing of Tools, Engines and Manufacturing Equipment

Description of Pollutant Sources: This activity applies to businesses and public agencies that clean manufacturing equipment such as saws, grinders, screens, and other processing devices outside of buildings, and to businesses engaged in pressure washing of engines, equipment, and portable objects.

Pollutants sources include toxic hydrocarbons, organic compounds, oils and greases, nutrients, heavy metals, pH, suspended solids, biochemical oxygen demand (BOD), and chemical oxygen demand (COD).

Pollutant Control Approach: The preferred approach is to cover and/or contain the cleaning activity or conduct the activity inside a building, to separate the uncontaminated stormwater from the pollutant sources. Wash water must be conveyed to a sanitary sewer after approval by the City of Tacoma, temporarily stored before proper disposal, or recycled, with no discharge to the ground, a storm drain, or surface water. Washwater may be discharged to the ground after proper treatment in accordance with Ecology Guidance WQ-R-95-56, "Vehicle and Equipment Washwater Discharges," revised September 2007. The quality of any discharge to the ground after proper treatment must comply with Ecology's Groundwater Quality Standards, Chapter 173-200 WAC. Contact the Ecology Southwest Regional Office for an NPDES Permit application for discharge of washwater to surface water or to a storm drain after on-site treatment.

Required BMPs

The following BMPs, or equivalent measures, are required of all businesses and public agencies engaged in cleaning or washing of tools, engines, equipment, and portable objects:

- Illicit connections to the storm drainage system must be eliminated. See BMP S101 for detailed information.
- Employees shall be educated to control washing operations to prevent stormwater contamination.
- All washwater must discharge to a holding tank, process treatment system, or sanitary sewer, never to the storm drain system. See BMP S103 in Chapter 5 for detailed information on how this must be accomplished.
- Pressure washing must be done in a designated area (such as a wash pad) provided with a sump drain and stormwater run-on prevention (Figure 106), See BMPs S106 and S107 for information on sumps (or holding tanks) and run-on prevention. Contact the City of Tacoma Sanitary Source Control Unit at 253-591-5588 for washing operation policy.

A103 - Washing, Pressure Washing and Steam Cleaning of Vehicles/Equipment/Building Structures

Description of Pollutant Sources: Vehicles, aircraft, vessels, carpet cleaning, and industrial equipment, and large buildings may be commercially cleaned with low or high pressure water or steam. This includes frequent "charity" car washes at gas stations and commercial parking lots. The cleaning can include hand washing, scrubbing, sanding, etc. Washwater from cleaning activities can contain oil and grease, suspended solids, heavy metals, soluble organics, soaps, and detergents that can contaminate stormwater.

Pollutant Control Approach: The preferred approach is to cover and/or contain the cleaning activity, or conduct the activity inside a building, to separate the uncontaminated stormwater from the pollutant sources. Washwater must be conveyed to a sanitary sewer after approval by the City of Tacoma, temporarily stored before proper disposal, or recycled, with no discharge to the ground, to a storm drain, or to surface water. Washwater may be discharged to the ground after proper treatment in accordance with Ecology guidance WQ-R-95-56, "Vehicle and Equipment Washwater Discharges," June 1995. The quality of any discharge to the ground after proper treatment must comply with Ecology's Ground Water Quality Standards, Chapter 173-200 WAC. Contact the local Ecology Regional Office for an NPDES Permit application for discharge of Washwater to surface water or to a storm drain after on-site treatment.

Required BMPs:

Conduct vehicle/equipment washing in one of the following locations:

- At a commercial washing facility in which the washing occurs in an enclosure and drains to the sanitary sewer, or
- In a building constructed specifically for washing of vehicles and equipment, which drains to a sanitary sewer.

Conduct outside washing operation in a designated wash area with the following features:

- In a paved area, constructed as a spill containment pad to prevent run-on of stormwater from adjacent areas. Slope the spill containment area so that washwater is collected in a containment pad drain system with perimeter drains, trench drains or catchment drains. Size the containment pad to extend out a minimum of four feet on all sides of the vehicles and/or equipment being washed.
- Convey the washwater to a sump (like a grit separator) and then to a sanitary sewer (if allowed by the City of Tacoma), or other appropriate wastewater treatment or recycle system. An NPDES permit may be required for any washwater discharge to a storm drain or receiving system after treatment. Contact the Ecology Regional Office for NPDES Permit requirements.

The containment sump must have a positive control outlet valve for spill control with live containment volume, and oil/water separation. Size the minimum live storage volume to contain the maximum expected daily washwater flow plus the sludge storage volume below the outlet pipe. The outlet valve will be shut during the washing cycle to collect the washwater in the sump. The valve should remain shut for at least two hours following the washing operation to allow the oil and solids to separate before discharge to a sanitary sewer. (See Ecology Publication WQ-R-95-56)

Note that the purpose of the valve is to convey only washwater and contaminated stormwater to a treatment system.

The inlet valve in the discharge pipe should be closed when washing is not occurring, thereby preventing the entry of uncontaminated stormwater into the pretreatment/ treatment system. The stormwater can then drain into the conveyance/discharge system outside of the wash pad (essentially bypasses the washwater treatment/conveyance system). Post signs to inform people of the operation and purpose of the valve. Clean the concrete pad thoroughly until there is no foam or visible sheen in the washwater prior to closing the inlet valve and allowing uncontaminated stormwater to overflow and drain off the pad (see Figure 4.1).

 Collect the washwater from building structures and convey it to appropriate treatment such as a sanitary sewer system if it contains oils, soaps, or detergents, where feasible. If the washwater does not contain oils, soaps, or detergents then it could drain to soils that have sufficient natural attenuation capacity for dust and sediment.

Recommended Additional BMPs

- The wash area should be well marked at gas stations, multi-family residences and any other business where non-employees wash vehicles.
- For uncovered wash pads, the positive control outlet valve may be manually operated, but a pneumatic or electric valve system is preferable.
 The valve may be on a timer circuit where it is opened upon completion of a wash cycle. The timer would then close the valve after the sump or separator is drained (Figure 4.1).
- Use phosphate-free biodegradable detergents when practicable.

- Consider recycling the washwater.
- Because soluble/emulsifiable detergents can be used in the wash medium, the selection of soaps and detergents and treatment BMPs should be considered carefully. Oil/water separators are ineffective in removing emulsified or water-soluble detergents.

Exceptions

- At commercial parking lots, where it is not possible to discharge the washwater to a sanitary sewer, a temporary plug or a temporary sump pump can be used at the storm drain to collect the washwater for off-site disposal such as to a nearby sanitary sewer.
- Charity car washes are not allowed to discharge dirty wash water to the storm drain. Prior to holding a charity car wash, contact the City of Tacoma for information about proper car washing procedures and to find out about utilizing a Clean Bay Car Wash loaner kit.
- New and used car dealerships may wash vehicles in the parking stalls as long as a temporary plug system is used to collect the washwater for disposal as stated above, or an approved treatment system for the washwater is in place.

At industrial sites contact the local Ecology Regional Office for NPDES Permit requirements even if soaps, detergents, and/or other chemical cleaners are not used in washing trucks.

BMP A201: Loading and Unloading Areas for Liquid or Solid Material Description of Pollutant Sources

Loading/unloading of liquid and solid materials at industrial and commercial facilities is typically conducted at shipping and receiving, outside storage, fueling areas, etc. Materials transferred can include products, raw materials, intermediate products, waste materials, fuels, scrap metals, etc. Leaks and spills of fuels, oils, powders, organics, heavy metals, salts, acids, alkalis, etc. during transfer are potential causes of stormwater contamination. Spills from hydraulic line breaks are a common problem at loading docks.

Pollutant Control Approach

Cover and contain the loading/ unloading area where necessary to prevent run-on of stormwater and runoff of contaminated stormwater.

Required BMPs

At All Loading/ Unloading Areas:

A significant amount of debris can accumulate at outside, uncovered loading/unloading areas. Sweep these surfaces frequently to remove material that could otherwise be washed off by stormwater. Sweep outside areas that are covered for a period of time by containers, logs, or other material after the areas are cleared.

Place drip pans or other appropriate temporary containment devices at locations where leaks or spills may occur such as hose connections, hose reels, and filler nozzles. Drip pans shall always be used when making and breaking connections (see Figure 107). Check loading/unloading equipment such as valves, pumps, flanges, and connections regularly for leaks and repair as needed. Frequent monitoring of drip pans is required to ensure captured materials are not displaced by wind or rainwater.

At All Loading/ Unloading Areas:

Consistent with Uniform Fire Code requirements and to the extent practicable, conduct unloading or loading of solids and liquids in a manufacturing building or under a roof, lean-to, or other appropriate cover.

Berm, dike, and/or slope the loading/unloading area to prevent run-on of stormwater and to prevent the runoff or loss of any spilled material from the area.

Large loading areas frequently are not curbed along the shoreline. As a result, stormwater passes directly off the paved surface into surface water. Place curbs along the edge, or slope the edge such that the stormwater can flow to an internal storm drain system that leads to an approved treatment BMP.

Pave and slope loading/unloading areas to prevent the pooling of water. The use of catch basins and drain lines within the interior of the paved area must be minimized as they will frequently be covered by material, or they shall be placed in designated "alleyways" that are not covered by material, containers, or equipment.

Recommended BMPs:

For the transfer of pollutant liquids in areas that cannot contain a catastrophic spill, install an automatic shutoff system in case of unanticipated off-loading interruption (e.g. coupling break, hose rupture, overfill, etc.).

At Loading and Unloading Docks:

Install/maintain overhangs or door skirts that enclose the trailer end (see Figure 109 and Figure 110) to prevent contact with rainwater.

Design the loading/unloading area with berms, sloping, etc. to prevent the run-on of stormwater. Retain on-site the necessary materials for rapid cleanup of spills.

BMP A204: Mobile Fueling of Vehicles and Heavy Equipment

Description of Pollutant Sources

Mobile fueling, also known as fleet fueling, wet fueling, or wet hosing, is the practice of filling fuel tanks of vehicles by tank trucks that are driven to the yards or sites where the vehicles to be fueled are located. Mobile fueling is only conducted using diesel fuel, as mobile fueling of gasoline is prohibited. Diesel fuel is considered a Class II Combustible Liquid, whereas gasoline is considered a Flammable Liquid.

Historically mobile fueling has been conducted for off-road vehicles that are operated for extended periods of time in remote areas. This includes construction sites, logging operations, and farms. Mobile fueling of on-road vehicles is also conducted commercially in the State of Washington.

Pollutant Control Approach

Proper training of the fueling operator and the use of spill/drip control and reliable fuel transfer equipment with backup shutoff valving are typically needed.

Required BMPs

Organizations and individuals conducting mobile fueling operations must implement the following BMPs. The operating procedures for the driver/operator shall be simple, clear, effective and their implementation verified by the organization that will potentially be liable for environmental and third party damage.

Ensure that all mobile fueling operations are approved and permitted by Tacoma Fire Prevention Bureau and comply with local and Washington State fire codes. Contact the Tacoma Fire Prevention Bureau at 253-591-5740 to obtain the annual permit.

In fueling locations that are in close proximity to sensitive aquifers, designated wetlands, wetland buffers, or other waters of the State, approval by the City of Tacoma is necessary to

ensure compliance with additional local requirements. In accordance with TMC 3.10 fueling is not permitted within 50ft of the aforementioned areas unless the Environmental Program Coordinator, or other City-designated environmental specialist, has approved additional measures to protect the body of water or designated wetland, such as appropriately sloped, drained, and curbed paving. It shall be the responsibility of the site owner to obtain approval under this exception. Any permit holder permitted under this exception shall cover all catch basins prior to commencing any fueling operations. Sites which are adjacent to designated wetlands, wetland buffers, streams, or bodies of water shall have on site, in a marked conspicuous location a minimum of 50 feet of 4-inch diameter, non-water absorbing containment boom.

Ensure compliance with all 49 CFR 178 requirements for DOT 406 cargo tanker. Documentation from a Department of Transportation (DOT) Registered Inspector shall be proof of compliance. Ensure the presence and the constant observation/monitoring by the driver/operator at the fuel transfer location at all times during fuel transfer and ensure that the following procedures are implemented at the fuel transfer locations:

- Place a drip pan or an absorbent pad under each fueling location prior to and during all
 dispensing operations. The pan (must be liquid tight) and the absorbent pad must have a
 capacity of 3 gallons. Spills retained in the drip pan or the pad need not be reported.
- Handle and operate fuel transfer hoses and nozzle, drip pan(s), and absorbent pads to
 prevent spills/leaks of fuel from reaching the ground, storm drains, and receiving waters.
- Do not extend the fueling hoses across a traffic lane without fluorescent traffic cones, or equivalent devices.
- Remove the fill nozzle and cease filling when the automatic shut-off valve engages. Do
 not allow automatic shutoff fueling nozzles to be locked in the open position.
- Do not "top off" the equipment receiving fuel.

Provide the driver/operator of the fueling vehicle with:

- Adequate headlamps, flashlights or other mobile lighting to view fill openings with poor accessibility. Consult with the Tacoma Fire Department for additional lighting requirements.
- Two-way communication with home base.

Train the driver/operator annually in spill prevention, reporting and cleanup measures and emergency procedures. Make all employees aware of the significant liability associated with fuel spills.

The fueling operation procedures shall be properly signed and dated by the responsible manager, distributed to the operators, retained in the organization files, and made available in the event an authorized government agency requests a review.

Ensure that the Tacoma Fire Department (911) and the Ecology Southwest Regional Office are immediately notified in the event of any spill entering surface or groundwaters, including catch basins. Establish a 24-hour "call down list" to ensure the rapid and proper notification of management and government officials should any amount of product be spilled on-site. Keep the list in a protected but readily accessible location in the mobile fueling truck. The "call down list" shall also pre-identify spill response contractors available in the area to ensure the rapid removal of significant product spillage into the environment.

Maintain a minimum of the following spill clean-up materials in all fueling vehicles, that are readily available for use:

- Non-water absorbents (pads, pillows, sump skimmers) capable of absorbing 15 gallons of diesel fuel:
- A storm drain plug or cover kit;
- A non-water absorbent containment boom of a minimum 10 feet in length with a 12gallon absorbent capacity;
- · A non-metallic shovel; and
- · Two, five-gallon buckets with lids.
- Loose granular absorbent material capable of absorbing a minimum of 5 gallons of diesel. Use only non-water absorbing materials, such as peat moss, during wet weather conditions.

Use automatic shutoff nozzles for dispensing the fuel. Replace automatic shut-off nozzles as recommended by the manufacturer.

Maintain and replace equipment on fueling vehicles, particularly hoses and nozzles, at established intervals to prevent failures.

Do not overfill tanks. Allow room for heat expansion of fuel during warm weather.

Include the following fuel transfer site components:

- · Automatic fuel transfer shut-off nozzles; and
- An adequate lighting system at the filling point.

A408 Storage of Liquids

Description of Pollutant Sources: Above-ground tanks containing liquids (excluding uncontaminated water) may be equipped with a valved drain, vent, pump, and bottom hose connection. They may be heated with steam heat exchangers equipped with steam traps. Leaks and spills can occur at connections and during liquid transfer. Oil and grease, organics, acids, alkalis, and heavy metals in tank water and condensate drainage can also cause stormwater contamination at storage tanks.

Pollutant Control Approach: Install secondary containment or a double-walled tank. Slope the containment area to a drain with a sump. Stormwater collected in the containment area may need to be discharged to treatment such as an API or CP oil/water separator, or equivalent BMP. Add safeguards against accidental releases including protective guards around tanks to protect against vehicle or forklift damage, and tagging valves to reduce human error. Tank water and condensate discharges are process wastewater that may need an NPDES Permit.

Required BMPs

- Inspect the tank containment areas regularly to identify problem components such as fittings, pipe connections, and valves, for leaks/spills, cracks, corrosion, etc.
- Place adequately sized drip pans beneath all mounted taps and drip/spill locations during filling/unloading of tanks. Valved drain tubing may be needed in mounted drip pans.
- Sweep and clean the tank storage area regularly, if paved.
- Replace or repair tanks that are leaking, corroded, or otherwise deteriorating.
- All installations shall comply with the Uniform Fire Code and the National Electric Code.
- Locate permanent tanks in impervious (Portland cement concrete or equivalent) secondary containment surrounded by dikes, or UL Approved double-walled. The dike must be of sufficient height to provide a containment volume of either 10 percent of the total enclosed tank volume or 110 percent of the volume contained in the largest tank, whichever is greater, or, if a single tank, 110 percent of the volume of that tank.
- Slope the secondary containment to drain to a dead-end sump (optional), or equivalent, for the collection of small spills.
- Include a tank overfill protection system to minimize the risk of spillage during loading.
- If the tank containment area is uncovered, equip the outlet from the spill-containment sump with a shutoff valve, which is normally closed and may be opened manually or automatically, only to convey uncontaminated stormwater to a storm drain. Evidence of contamination can include the presence of visible sheen, color, or turbidity in the runoff, or existing or historical operational problems at the facility. Simple pH measurements with litmus or pH paper can be used for areas subject to acid or alkaline contamination.

At petroleum tank farms, convey stormwater contamination with floating oil or debris in the contained area through an API or CP-type oil/water separator (Volume V, Treatment BMPs), or other approved treatment prior to discharge to storm drain or surface water.

BMP A409: Parking and Storage for Vehicles and Equipment

Description of Pollutant Sources: Parked vehicles at public and commercial parking lots and garages, such as retail store, fleet vehicle (including rent-a-car lots and car dealerships), equipment sale and rental parking lots, and parking lot driveways, can be sources of toxic hydrocarbons and other organic compounds, oils and greases, metals, and suspended solids.

Required BMPs

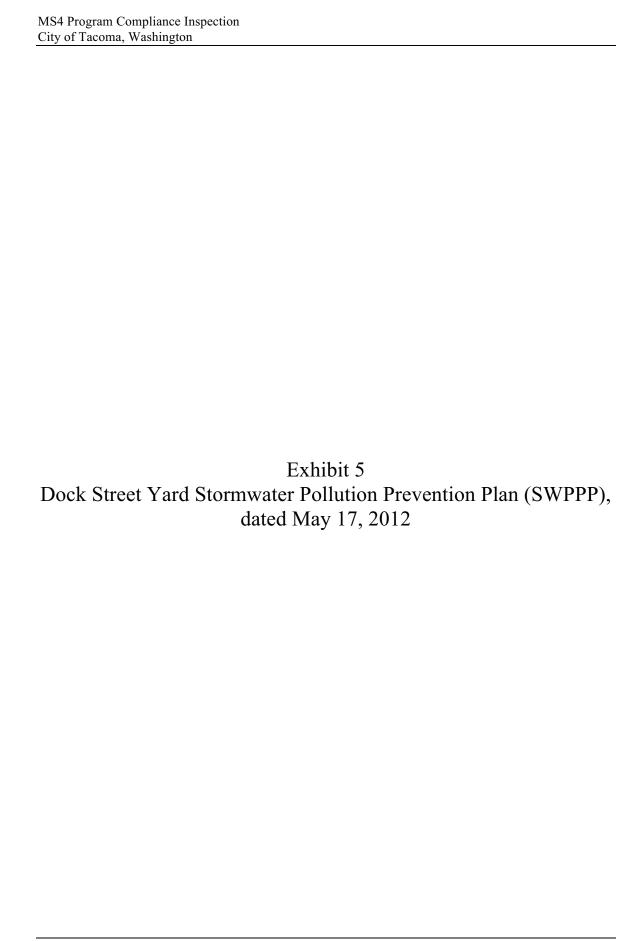
- If washing of a parking lot is conducted, discharge the washwater to a sanitary sewer (if allowed by the City of Tacoma) or other approved wastewater treatment system, or collect it for off-site disposal.
- Do not hose down the area to a storm drain or receiving water. Sweep (vacuum sweeping is preferred) parking lots, storage areas, and driveways regularly to collect dirt, waste, and debris.
- An oil removal system such as an API or CP oil and water separator, catch basin filter, or equivalent BMP (Volume 5), approved by the City of Tacoma, is applicable for parking lots meeting the threshold vehicle traffic intensity level of a high-use site. For more information on high-use sites, refer to Volume 5, Chapter 1.
- Covered floors of parking garages must drain to the sanitary sewer through an approved oil/water separator. Uncovered floors must be routed to the storm drainage system through an approved treatment device.

Tacoma Water Operations Center Stormwater Compliance Inspection



	Description	Yes	No	Comments
1. Dum				
	closed/covered			
	leaking fluids			
	staining of pavement			
	appearance	9 10		
	need sweeping			
	vehicle leak stains			
3. Wasi				
_	basin top clean	T		
	track out			
	visible sheen			
	h side stockpile area			
	pavement clean	10.0		
	trash	100		
	trencher leaking			
	ling dock			
	need sweeping			
	staining of pavement			
	combustibles stored correctly	_		
	ardous waste storage shed			
	floor/ground clear			
	appropriately stored			
	area around shed clear	1		
	catch basins		1	
_	basin top clean			
	tubid water visible			
-	visible sheen			
	in general		-	A
	Any present contaminates			
tem#		nents o	r Corrective /	Actions Required/Taken
tem w	Com	ments o	d conscier h	Accords requiredy rancis
+				
-		-		
-		_	7	
-				
-				
-		-		
-				
-				
+		_		
-		-		
_				

Inspected by:	
Date:	Water Rep Notified





Stormwater Pollution Prevention Plan (SWPPP)

City of Tacoma

Sewer Transmission and Maintenance Division

"Dock Street Yard"

202 East 23rd Street

Tacoma, WA 98421

May 17th, 2012

This page is intentionally blank.

Table of Contents

Intr	oduc	tion	5	
1.0	Stormwater Pollution Prevention Plan			
	Purpose and Objectives			
	1.1	Legal Foundation	7	
	1.2	SWPPP Location and Accessibility	8	
		SWPPP Review, Revisions, and Implementation	8	
	1.4		9	
2.0	Facility Description			
	2.1	Site Description	12	
	2.2	Map (Appendix A)	13	
		Inventory of Materials	13	
		Site History	14	
	2,5	100 Table - 100	16	
3.0	Operational BMPs			
	3.1	Good Housekeeping	18	
	3.2	Employee SWPPP Training	21	
	3.3	Prohibitions of Practices	21	
	3.4	Regular Site Inspections	21	
4.0	Source Control BMPs			
	4.1	BMP A103 — Washing Previous Washing, and Steam Cleaning of Vehicle/Equipment/Building Structures	23 24	
	4.2	BMP A401 - Storage or Transfer (Stanish) of Solid Raw Materials, By-products, or Finished Products	24	
	4.3	BMP A402 - Storage and Treatment of Contaminated Soils	24	

This page is intentionally blank.

Introduction

Stormwater Pollution Prevention Plans (SWPPP) are usually written by environmental consulting firms to satisfy the legal obligations of their clients. Most of these plans end up on a shelf and are only reviewed, if at all, by someone at the management level. They are rarely read or understood by the people that have the greatest role in their implementation, the employee. With that in mind, this plan was written expressly for the men and women of Tacoma's Sewer Transmission and Maintenance Division.

As you read this plan, you will invariably find some areas of technical information and legalese. There's just no way around it; it's a legal document. Unfortunately, even though it's important information that has to be included, it won't necessarily help you to do a better job of protecting surface water quality in the Dock Street Yard.

The information that will be most useful to you can be found in the Operational BMPs and Source Control BMPs. The information in these sections is *very* important and *must* be implemented. Some areas will be **bolded** and *italizized* so they stand out and get noticed. Pay careful attention to these areas and ask for clarification about anything that doesn't seem to make sense or that you just don't understand. It is vital to our success that each of us understands what is expected and that we accept personal responsibility for implementing this plan.

The bottom line is:

We are required to protect surface water quality in the Dock Street Yard and we can get fined if we fail to implement this plan.

I hope you will enjoy reading this Stormwater Pollution Prevention Plan and I want to thank you in advance for your assistance and commitment to protecting our environment.

Sincerely,

Christopher Ott Senior Environmental Specialist City of Tacoma

This page is intentionally blank.

The state of the s

1.0 Stormwater Pollution Prevention Plan Purpose and Objectives

What is the purpose of a Stormwater Pollution Prevention Plan?

Water that falls from the sky as either snow or rain hits the pavement relatively clean and pure. Industrial maintenance yards like the City of Tacoma's Dock Street Yard are a hub of activity. A lot of these activities bring potential contaminants like street waste and sanitary effluent into the yard. At the same time, modern city maintenance shops like the Sewer Transmission and Maintenance Division rely on heavy equipment and hig trucks to complete the tasks at hand. Most of this equipment is powered by hydraulic oil under pressure. There are also fuels and lubricants. The point is there are many ways to harm surface water. The goal of this plan is simply to keep it as clean as possible by minimizing its contact with pollutants. This SWPPP is the document that provides the framework for achieving that goal.

The major objectives of this SWPPP are:

- To identify pollutant sources and implement Best Management Practices that will minimize their contact with stormwater.
- To prevent violations of surface water quality
- To meet the expectations of our City Council who have said that maintaining City properties in a clean, attractive, sustainable, and efficient manner is a priority.

1.1 Legal Foundation

Effective February 16th of 2007, the Washington State Department of Ecology issued the current Phase I Municipal Stormwater Permit, a National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit, for discharges from Large and Medium Municipal Separate Storm Sewer Systems.

To comply with provisions of the State of Washington's Water Pollution Control Law (Chapter 90.48 Revised Code of Washington) and the Federal Water Pollution Control Act (The Clean Water Act) Title 33 United States Code, Section 1251 et seq., the City of Tacoma was compelled to apply for and is expected to adhere to all conditions of the NPDES Phase I Municipal Stormwater Permit.

The NPDES Phase I Municipal Stormwater Permit requires the City of Tacoma to develop and implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards and material storage facilities owned or operated by the City in areas subject to this permit that are not already covered by another Ecology issued stormwater discharge permit. The SWPPP contains information on all the Best Management Practices (BMPs) that will be employed at these facilities.

1.2 SWPPP Location and Accessibility

This SWPPP will be maintained by the Sewer Transmission and Maintenance Division at 2201 Portland Avenue, Tacoma, WA 98421. It is available for review during normal business hours, Monday through Friday from 7:00 to 3:30.

In addition, as author of this plan, the Environmental Compliance Support Group will maintain a master file at the Center for Urban Waters, 326 East "D" Street, Tacoma, WA 98421.

1.3 SWPPP Review, Revisions, and Implementation

The Assistant Division Manager will ensure this SWPPP is kept current and updated as necessary to reflect any changes to the facility operation. The SWPPP will also be amended through a process called Adaptive Management when monitoring, via site inspections, indicates the plan can be improved upon to protect surface water quality.

Adaptive Management is a philosophy that takes advantage of field experience and research to improve effectiveness over time. Thus, as we move to implement this plan, we will undoubtedly find areas that need improvement. Our adaptive management philosophy enables us to modify the plan so it becomes more effective.

The three basic components of an Adaptive Management program are:

- Compliance Monitoring
- Effectiveness Monitoring
- Implementation of Changes

This SWPPP may be amended at any time by either the Assistant Division Manager or the Environmental Compliance Support Group. However, all revisions must be agreed upon by both parties prior to implementation.

1.4 Recordkeeping

The Assistant Division Manager will maintain a file for Environmental Compliance of the Dock Street Yard. The file will contain the SWPPP, copies of all inspection reports, and any other relevant documents, photos, or written correspondence. The Assistant Division Manager will apprise the Environmental Compliance Group of any enforcement actions or correspondence regarding this property from any regulatory agency.

The Assistant Division Manager, or a designee, will forward copies or electronic facsimiles of all inspection reports to the Environmental Compliance Group via e-mail message or by interoffice courier to the Center for Urban Waters, 326 East D Street, Tacoma.

This page is intentionally blank.

2.0 Facility Description

General information related to this facility:

Owner Name:

City of Tacoma Public Works Department

747 Market Street, Room 737 Tacoma, WA 98402-3701

Facility Name:

Sewer Transmission and Maintenance

"Dock Street Yard"

Facility Address:

202 South 23rd Street

Tacoma, WA 98421

Parcel #:

0320092038 and 0320092036

Parcel Area:

1.25 Acres (54,454 Sq Ft)

Drainage Basin:

Foss Waterway

Outfall:

#237-B (see map attached)

2.1 Site Description

The "Dock Street Yard" is located at the head of the Thea Foss Waterway in the City of Tacoma. Access is provided by an electronically-controlled gate on East "C" Street just west of Puyallup Avenue. It is bordered by the following streets:

North:

BNRR Tracks

South:

Puyallup Avenue

East

East "C" Street

West

Former Almar Boat Manufacturing

The general terrain is a valley bottom but the yard itself is graded relatively flat and has been paved with asphalt. There are two covered storage areas under what could best be described as a "bridge" over Puyallup Avenue. There are also several uncovered bins for temporary storage of street waste, cold-mix asphalt, and Vactor ® waste.

The Burlington Northern Railroad (BNRR) owns the property to the north between the Thea Foss Waterway and the Dock Street Yard. This is the main line for passenger and freight traffic going to or from the south. See *Site History* for more information.

Adjacent to the property, on the west side, is the former home of Almar Aluminum Boats, which later became a wholly-owned subsidiary of the North River Boat Company before moving to a new location. The site is currently vacant and available for sale.

Toward the northeast corner of the property is a parcel owned by Evergreen Equipment Company, the local Stihl & chainsaw supplier.

The Dock Street Yard covers about one and a quarter acres and discharges to the Thea Foss Waterway. There are four catch basins that discharge to Outfall #237-B, one of the twin 96" stormwater lines at the head of the waterway. The remainder of the site drains directly to the sanitary sewer, via the Dock Street Pump Station (SAP# E-MA-PS-SA-AN3101)

2.2 Site Map

A site map has been developed to identify stormwater drainage areas and discharge points as well as specific industrial activities that could impact stormwater quality.

2.3 Inventory of Equipment and Materials

The inventory of equipment and materials is a list of those things at the site that are exposed to precipitation or run-off <u>and</u> have the potential to impact stormwater quality. These materials and equipment include, but are not limited to:

- Sanitary sewer debris
- Street sweeping debris
- · Sewer maintenance equipment

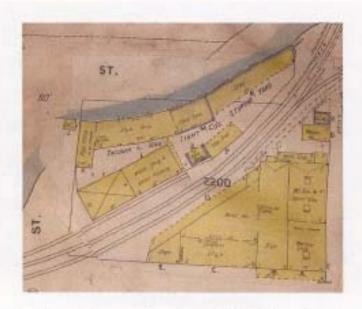
2.4 Site History

Once the decision has been made to write a stormwater pollution prevention plan, it's usually a good idea to start by considering the businesses and industries that may have occupied the site previously because it's not uncommon for them to have left behind a legacy of pollution. This historical information can prove especially valuable when contamination is discovered and the source may not be readily apparent. It's also important to consider the past because it increases our appreciation of the facility.

The Dock Street Yard has a very interesting history. The parcel was originally used by the Puyallup Tribe of Indians when the Thea Foss Waterway was merely a backwater lagoon near the mouth of the Puyallup River. It was a popular swimming hole for young Indian boys and girls enjoying warm summer weather. In 1852, a pioneer immigrant named Nicholas Delin came here and claimed 160 acres under the Oregon Donation Land Claim Act of 1850. The Act provided a quarter section of land, one hundred and sixty acres, to every white male citizen of the United States, above the age of twenty-one, willing to emigrate to and settle in the vast Oregon Territory. Delin built a small dam across two streams at the head of the waterway and used them to power a sawmill. The first stream came down Galliher Gulch following a route that was formerly known as Wakefield Drive and has now become the north end of South Tacoma Way. A marker located across from the Tacoma Rescue Mission identifies this stream as the site of the first water wheel (circa 1886) used to generate electricity for the City of Tacoma. The second stream came off the hillside near present day McKinley Hill. Neither stream exists today but their legacy lives on as the perennial flow coming through the twin 96" stormwater lines. When the Indian Wars of 1855 broke out Delin took refuge at Fort Steilacoom and later sold the land in about 1857.

"About the little mill there used to gather companies of Indians, to whom the whirling turbine and its mystic transmission of power to the saw never ceased to be a wonder. Indeed, they sometimes crowded so numerously about the machinery that they had to be pushed out of the place. Then they would sit for hours, scarcely uttering a sound and almost motionless, apparently hypnotized by the white man's curious machine."

Excerpt from The History of Tacoma, by H. Hunt, Volume I, p.10



As you can see in the picture above, taken from the Sanborn Fire Insurance Map of 1888, the property has been used extensively for various industrial uses. The Sanborn maps were upgraded periodically by pasting new information over the existing diagrams. It's impossible to see now, because it's been pasted over, but the original City Barn was actually located in the lower right-hand corner behind the yellow triangle that says Wood HO. That was where all the Public Works horses and equipment were kept before the new Street Maintenance Barn was built in 1910 at 2324 South C Street.

The Dock Street Yard has great historical significance. It is in the exact location, or at the very least is within a stone's throw of the spot where the first settler to this area, Nicholas Delin, constructed his sawmill. And it was the original home of Tacoma Public Works. This property is part of our heritage and deserving of our respect and admiration.



Property of the Washington State Historical Society - All Rights Reserved
Nicholas Delin's Sawmill

2.5 Site Operation

The Dock Street Yard is integral to the fulfillment of the division's mission statement;

"To provide customers with an efficient, cost-effective, and professionally maintained wastewater and surface water collection system"

Typical daily operation begins shortly after 7:00 AM when Sewer Transmission and Maintenance crews open the gate to the yard and make a cursory inspection of the facility. The normal workday ends at 3:30 PM and the gate remains closed and locked.

Throughout the day, City-owned trucks come to the Dock Street Yard to either pick up materials and/or equipment or to dump loads of street waste or other debris. They use a front-end loader to maintain the street waste pile. Depending on circumstances, crews may access the facility at all hours of the day or night responding to backups and overflows. The gate closes and locks automatically at all times.

This page is intentionally blank.

"CENTER AND ADDRESS OF THE PROPERTY OF THE PRO

3.0 Operational BMPs

Site management practices that prevent or reduce the introduction of pollutants into stormwater are collectively known as "Operational BMPs". The operational BMPs currently in use at the Dock Street Yard are as follows:

- 3.1 Good housekeeping
- 3.2 Employee (SWPPP) training
- 3.3 Prohibition of practices
- 3.4 Regular site inspection and record-keeping
- 3.5 Routine maintenance

3.1 Good Housekeeping

Good housekeeping is the cornerstone of surface water quality protection. It is the single most important BMP because it does the best job of protecting water quality for the least amount of money. Good housekeeping begins at the entrance gate and continues throughout the entire facility. There is simply no better way to protect water quality. Visitors to the Dock Street Yard should always get a favorable first impression upon entering the property. First impressions form a lasting opinion of both the organization and its operation.

All employees must take an active role in keeping the yard clean.

Sweeping

The driveway, material storage areas, and other paved surfaces must be swept regularly to prevent the accumulation of dust and dirt. The frequency of sweeping will vary depending on how dirty the yard appears. The Sewer Transmission and Maintenance Division have several regenerative air sweepers for this purpose. Operators must engage all water sprinkler heads to minimize airborne dust when sweeping Environmental Service's properties. In areas where the sweeper cannot get to, hand sweeping must be done often enough to prevent the accumulation of dust, dirt, or debris.

Track Out

Track out is the name for visible dirt or mud that sticks to tires and is then "trackedout" onto a paved roadway surface. Track-out can occur when City trucks and equipment pass through dirty areas such as in front of the street waste disposal bins. If dirt is tracked onto the driving lane, call for a broom to clean it up. If there's mud or sludge on your tires, stop and clean them to the best of your ability.

When dumping a load at the Dock Street Yard always try to back up close to the pile without running the wheels into it. When pulling forward, try to finish dumping the load before pulling away from the pile.

Hydraulic and Motor Oil

Most of the trucks and other pieces of equipment used in the Dock Street Yard have hydraulic reservoirs. Hydraulic oil under pressure is prone to leaks.

To reduce the amount of leakage:

- Always connect the male and female ends of hydraulic lines together when not in use.
- Visually inspect all vehicles and equipment for oil leaks before starting the engine.
- Do not top off fuel tanks when filling; spills can occur when fuel expands due to temperature changes.
- Clean up all leaks and spills immediately and report them to your supervisor.
- City of Tacoma vehicles should not be leaking fluids, for any reason, at any time. Report and fix all leaks promptly.

Note: minor spotting on the pavement is an unfortunate and unpreventable reality of heavy equipment and large trucks. Use drip pans, absorbent pads, Absorbal® or similar products to capture small drips. Monitor the drip and report any increase as soon as it becomes apparent.

Spill Response

All spills must be reported to your supervisor and cleaned up immediately. There are covered containers of Absorbal®, or similar products, located throughout the Dock Street Yard that can be used to clean up or contain spills. These containers are green plastic trash cans with a paper label affixed to the lid denoting "Spill Kit".

RCW 90.48 requires all hazardous material and oil spills that enter any waters-of-thestate, (including catch basins), to be reported immediately by the spiller. The sooner Ecology knows about an incident, the quicker they can act to try and reduce damages to the environment and protect sensitive natural resources.

Please call the Source Control Pager at (253) 428-2721. You will be prompted to enter your call-back phone number. Enter your complete phone number and hang up. You will be contacted within 15 minutes or less. If you don't get a response, please call again. Still no response? Call Operations at (253) 591-5595.

Source Control representative will call the required TWO (2) following 24-hour numbers:

> Washington Emergency Management Division: 1-800-258-5990 – OR – 1-800-OILS-911

AND

 National Response Center: 1-800-424-8802

Garbage and Waste Materials

Trash cans and dumpsters are located throughout the Dock Street Yard. They should be monitored and emptied regularly. Watch for any evidence of rodents and report it immediately to your supervisor. Pick up litter when you see it and dispose of it properly.

All trash cans and dumpsters must be covered or closed at all times to prevent contact with rain water.

Integrated Pest Management

The City of Tacoma has established an Integrated Pest Management (IPM) program to guide its response to pests. Pests include such things as undesirable vegetation, rodents and insects. IPM is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. IPM programs use current, comprehensive information on the life cycles of pests and their interaction with the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment.

"Hot" Loads

The Sewer Transmission and Maintenance Division have a designated pad for "Hot Loads" at their Dock Street Yard and is permitted by the Tacoma-Pierce County Health Department Waste Management Section under Permit # 27-725.

Contact Madeline Malmgren at (253) 502-2149 or Steve Jackson (253) 502-2141 for prior authorization. After hours, call the Standby Coordinator at pager (253) 396-8273.

Washing Vehicles

Washing vehicles is permissible at the Dock Street Yard with the understanding that no wash water is allowed into the municipal stormwater conveyance system. Use the dedicated wash pad at the southwest corner of the pump station. That pad drains to the City's sanitary sewer system instead of the stormwater system.

3.2 Employee SWPPP Training

All Sewer Transmission and Maintenance Division employees will receive SWPPP training and updated information annually. The Division Training Representative shall keep and maintain a record of all SWPPP training.

3.3 Prohibition of Practices

N/A

3.4 Regular Site Inspection

The Dock Street Yard shall be inspected by the Assistant Division Manager or a designee at least once each month or more often if necessary. The designated inspector shall report all discrepancies to the Assistant Division Manager. Discrepancies shall be rectified as soon as possible and the Assistant Division Manager shall be notified upon completion.

An inspection report template is attached as Appendix A. All inspection reports shall be reviewed by the Assistant Division Manager and scanned electronically before forwarding to the Environmental Compliance Group.

The Environmental Compliance Group will conduct random inspections of the facility from time to time to ensure proper implementation of the plan. Results from these compliance monitoring inspections shall be sent to the Division Manager and Assistant Division Manager.

Any discrepancies noted during the Compliance Monitoring Inspections shall be rectified as soon as practicable, but no later than seven (7) calendar days from the date of inspection, and accompanied by a written response to the Environmental Compliance Group.

4.0 Source Control BMPs

As the name implies, Source Control BMPs are intended to reduce or minimize contact between contaminants and stormwater runoff by controlling them at the source. Source Control BMPs are physical, structural, or mechanical devices that are used to capture and retain pollutants before they begin to move away from their point of origin. In other words, they help to prevent pollution from contacting stormwater in the first place. Source Control BMPs can be found in Volume IV of the City of Tacoma's Surface Water Management Manual.

Many of these BMPs are common sense and "housekeeping" issues. For example, hand sweeping an indoor or outdoor work area instead of using a hose to wash it into a storm drain or other drainage conveyance. The use of source control BMPs is always the first line of defense in stormwater pollution prevention efforts for the following reasons:

- Most source control BMPs are relatively inexpensive and easy to implement.
- In the majority of cases, source control BMPs are all that is needed to prevent stormwater pollution problems.
- Removing pollutants from stormwater is very expensive and often ineffective. It may not be possible to remove 100% of the pollution from stormwater. It is much better to use source control BMPs and prevent the pollution from contacting stormwater in the first place.

The following Source Control BMPs were selected from The City of Tacoma's Surface Water Management Manual for implementation at the Dock Street Yard. The complete text of these BMPs is included as Appendix B.

BMP A103	A103 Washing, Pressure Washing and Steam Cleaning of Vehicles/Equipment/Building Structures	
BMP A401	Storage or Transfer (Outside) of Solid Raw Materials, By-Products or Finished Products	
BMP A402 Storage and Treatment of Contaminated Soils		

BMP A103 - Washing, Pressure Washing and Steam Cleaning of Vehicles/Equipment/Building Structures

Vehicle washing, pressure washing, and steam cleaning are allowed in the Dock Street Yard. Use the dedicated wash pad at the southwest corner of the pump station. That pad drains to the City's sanitary sewer system instead of the stormwater system.

Do not allow wash water to enter the stormwater conveyance system.

BMP A401 - Storage or Transfer (Outside) of Solid Raw Materials, By-products, or Finished Products

All stockpiles of street waste, Vactor ® waste, and dirt are greater than 5 cubic yards. Stockpiles are uncovered and situated upslope from a paved surface that sheet flows to a curtain drain connected to the sanitary sewer.

BMP A402 - Storage and Treatment of Contaminated Soils

The soils that enter the Dock Street Yard may be contaminated with toxic organic compounds, petroleum products, and/or heavy metals. Stormwater runoff that comes in contact with contaminated soil can carry those contaminants along with loose dirt into receiving waters.

Stormwater from the Dock Street Yard discharges via Outfall 297-B to the Thea Foss Waterway, a remediated Superfund site. The City of Tacoma has invested a tremendous amount of time and money in restoring this waterway and we must be diligent to protect it from recontamination.

 Do not let contaminated soils come in contact with any surface waters discharging through the City's stormwater conveyance system.

Environmental Services Sewer Transmission and Maintenance

Dock Street Yard

Stormwater Compliance Inspection

Date:_			
1.	Check entrance at East "C" Street	OK	Needs Work
	Is the gate operating correctly?	-	
	Is there any track-out?	_	
2.	Check all CBs the yard		
	Is the basin top clean?		
	Is there turbid water running into it?		
	Is there a visible sheen?		
3.	Check driving lane		
	Does it need sweeping?		2000
4.	Check storage racks for PVC pipes and other equipment		
	 Is the pavement clean around storage area? 	Towns Co.	60 10
5.	Check CB to the north of the pump station		
	Is the basin top clean?	_	
	Is there turbid water running into it?		
	Is there a visible sheen?		
6.	Check emergency generator		
	 Are there any leaks around equipment? 		
	Is the area clean?	100-00	20-20
7.	Check street waste and Vactor ® waste bins		
	 Is the pavement clean in this area? 		
	 Is there any track-out to other areas of the yard² 		
8.	Check all trash cans		
	Do cans need to be emptied?		
	Are all cans covered and protected from rain?		

(OVER)

Comments or Corrective Actions Required:		
Corrective Actions Taken:		
Inspected by:	Date:	

Appendix C Source Control BMPs (Excerpted from Surface Water Manual)

A103 - Washing, Pressure Washing and Steam Cleaning of Vehicles/Equipment/Building Structures

Description of Pollutant Sources: Vehicles, aircraft, vessels, carpet cleaning, and industrial equipment, and large buildings may be commercially cleaned with low or high pressure water or steam. This includes frequent "charity" car washes at gas stations and commercial parking lots. The cleaning can include hand washing, scrubbing, sanding, etc. Washwater from cleaning activities can contain oil and grease, suspended solids, heavy metals, soluble organics, soaps, and detergents that can contaminate stormwater.

Pollutant Control Approach: The preferred approach is to cover and/or contain the cleaning activity, or conduct the activity inside a building, to separate the uncontaminated stormwater from the pollutant sources. Washwater must be conveyed to a sanitary sewer after approval by the City of Tacoma, temporarily stored before proper disposal, or recycled, with no discharge to the ground, to a storm drain, or to surface water. Washwater may be discharged to the ground after proper treatment in accordance with Ecology guidance WQ-R-95-56, "Vehicle and Equipment Washwater Discharges," June 1995. The quality of any discharge to the ground after proper treatment must comply with Ecology's Ground Water Quality Standards, Chapter 173-200 WAC. Contact the local Ecology Regional Office for an NPDES Permit application for discharge of Washwater to surface water or to a storm drain after onsite treatment.

Required BMPs:

Conduct vehicle/equipment washing in one of the following locations:

- At a commercial washing facility in which the washing occurs in an enclosure and drains to the sanitary sewer, or
- In a building constructed specifically for washing of vehicles and equipment, which drains to a sanitary sewer.

Conduct outside washing operation in a designated wash area with the following features:

- In a paved area, constructed as a spill containment pad to prevent run-on of stormwater from adjacent areas. Slope the spill containment area so that washwater is collected in a containment pad drain system with perimeter drains, trench drains or catchment drains. Size the containment pad to extend out a minimum of four feet on all sides of the vehicles and/or equipment being washed.
- Convey the washwater to a sump (like a grit separator) and then to a sanitary sewer (if allowed by the City of Tacoma), or other appropriate wastewater treatment or recycle system. An NPDES permit may be required for any washwater discharge to a storm drain or receiving system after treatment. Contact the Ecology Regional Office for NPDES Permit requirements.
- The containment sump must have a positive control outlet valve for spill control with live containment volume, and oil/water separation. Size the minimum live storage volume to contain the maximum expected daily washwater flow plus the sludge storage volume below the outlet pipe. The outlet valve will be shut during the washing cycle to collect the washwater in the sump. The valve should remain shut for at least two hours following the washing operation to allow the oil and solids to separate before discharge to a sanitary sewer. (See Ecology Publication WQ-R-95-56)

Note that the purpose of the valve is to convey only washwater and contaminated stormwater to a treatment system. The inlet valve in the discharge pipe should be closed when washing is not occurring, thereby preventing the entry of uncontaminated stormwater into the pretreatment/treatment system. The stormwater can then drain into the conveyance/discharge system outside of the wash pad (essentially bypasses the washwater treatment/conveyance system). Post signs to inform people of the operation and purpose of the valve. Clean the concrete pad thoroughly until there is no foam or visible sheen in the washwater prior to closing the inlet valve and allowing uncontaminated stormwater to overflow and drain off the pad (see Figure 4.1).

Collect the washwater from building structures and convey it to appropriate treatment such as a sanitary sewer system if it contains oils, soaps, or detergents, where feasible. If the washwater does not contain oils, soaps, or detergents then it could drain to soils that have sufficient natural attenuation capacity for dust and sediment.

Recommended Additional BMPs

- The wash area should be well marked at gas stations, multi-family residences and any other business where non-employees wash vehicles.
- For uncovered wash pads, the positive control outlet valve may be manually operated, but a pneumatic or electric valve system is preferable. The valve may be on a timer circuit where it is opened upon completion of a wash cycle. The timer would then close the valve after the sump or separator is drained (Figure 4.1).
- Use phosphate-free biodegradable detergents when practicable.
- Consider recycling the washwater.

Because soluble/emulsifiable detergents can be used in the wash medium, the selection of soaps and detergents and treatment BMPs should be considered carefully. Oil/water separators are ineffective in removing emulsified or water-soluble detergents.

Exceptions

- At commercial parking lots, where it is not possible to discharge the washwater to a sanitary sewer, a temporary plug or a temporary sump pump can be used at the storm drain to collect the washwater for off-site disposal such as to a nearby sanitary sewer.
- Charity car washes are not allowed to discharge dirty wash water to the storm drain. Prior to holding a charity car wash, contact the City of Tacoma for information about proper car washing procedures and to find out about utilizing a Clean Bay Car Wash loaner kit.
- New and used car dealerships may wash vehicles in the parking stalls as long as a temporary plug system is used to collect the washwater for disposal as stated above, or an approved treatment system for the washwater is in place.

At industrial sites contact the local Ecology Regional Office for NPDES Permit requirements even if soaps, detergents, and/or other chemical cleaners are not used in washing trucks.

BMP A401: Storage or Transfer (Outside) of Solid Raw Materials, By-Products or Finished Products

Description of Pollutant Sources: Solid raw materials, by-products, or products such as gravel, sand, salts, topsoil, compost, logs, sawdust, wood chips, lumber and other building materials, concrete, and metal products are typically stored outside in large piles, stacks, etc. at commercial or industrial establishments. Contact of outside bulk materials with stormwater can cause leachate and/or erosion of the stored materials. Contaminants may include TSS, BOD, organics, and dissolved salts (sodium, calcium, magnesium chloride, etc).

Pollutant Control Approach: Provide impervious containment with berms, dikes, etc. and/or cover to prevent run-on and discharge of leachate, pollutant(s) and TSS.

BMPs

- Do not hose down the contained stockpile area to a storm drain or other conveyance leading to a storm drain or receiving water.
- Choose one or more of the source control BMP options listed below for stockpiles greater than 5 cubic yards of erodible or water soluble materials such as soil, road deicing salts, compost, unwashed sand and gravel, sawdust, etc. or for outside storage areas for solid materials such as logs, bark, lumber, metal products, etc.:
 - Store in a building or paved and bermed covered area as shown in Figure 116.
 - Place temporary plastic sheeting (polyethylene, polypropylene, hypalon, or equivalent) over the material as shown in Figure 117.

OR

- Pave the area and install a stormwater drainage system. Place curbs or berms along the perimeter of the area to prevent the run-on of uncontaminated stormwater and to collect and convey runoff to treatment. Slope the paved area in a manner that minimizes contact between stormwater (e.g., pooling) and leachable materials in compost, logs, bark, wood chips, etc.
- For large stockpiles that cannot be covered, implement containment practices at the perimeter of the site and at any catch basins as needed to prevent erosion and discharge of the stockpiled material offsite or to a storm drain. Ensure that contaminated stormwater is not discharged

directly to catch basins without being conveyed through a treatment BMP. For log yards see Ecology publication, "Prevent Stormwater Pollution at Log Yards/Best Management Practices," 95-053 "Industrial Stormwater General Permit Implementation Manual for Log Yards:, publication # 04-10-031.

 Convey contaminated stormwater from the stockpile area to a wet pond, wet vault, settling basin, media filter, or other appropriate treatment system, depending on the contaminate.

Recommended BMPs:

- Maintain drainage areas in and around storage of solid materials with a minimum slope of 1.5 percent to prevent pooling and minimize leachate formation. Areas should be sloped to drain stormwater to the perimeter where it can be collected, or to internal drainage "alleyways" where material is not stockpiled.
- Sweep paved storage areas regularly for collection and disposal of loose solid materials.
- If and when feasible, collect and recycle water-soluble materials (leachates) to the stockpile.
- Stock cleanup materials such as brooms, dustpans, and vacuum sweepers near the storage area.

BMP A402: Storage and Treatment of Contaminated Soils

Description of Pollutant Sources

This activity applies to businesses and agencies that store and treat soils contaminated with toxic organic compounds, petroleum products, or heavy metals. Stormwater runoff that comes in contact with contaminated soil can carry those contaminants along with loose dirt into receiving waters.

Pollutant Control Approach

The Tacoma-Pierce County Health Department Waste Management Section (at 253-798-6047) regulates and permits businesses disposing and treating contaminated soil. A permit from the Puget Sound Clean Air Agency is required if the treatment method for removing soil contaminants involves forcing air through, or sucking air from, the soil. In addition, a Special Approved Discharge Authorization from the City of Tacoma may be required if potentially contaminated water is to be discharged from the site. The Puget Sound Clean Air Agency can be reached at 800-552-3565. Contact the City of Tacoma Source Control Unit at 253-591-5588.

Required BMPs

The BMPs included here are intended as a supplement to other regulations. The following BMPs or equivalent measures are required of all businesses engaged in storage and treatment of contaminated soils:

- The storage area for contaminated soils must be enclosed indoors, covered, or contained by a curb, dike, or berm constructed around the material storage area. If the contaminated soils are covered, stormwater run-on protection must also be provided. BMP S107 provides further details on containment and run-on prevention.
- Employees must be educated on methods to prevent contamination from leaving the site.
- Cleanup materials must be stocked near the storage area.
- Gutters, storm drains, catch basins, and other drainage system features on the site must be cleaned following the completion of site work, or at least once per year, whichever comes first. Sediments from such cleaning must be disposed of properly. See BMP S109 and S102 for details on catch basin cleaning and disposal options.

Recommended BMPs

The following BMPs are not required but can provide additional pollution protection:

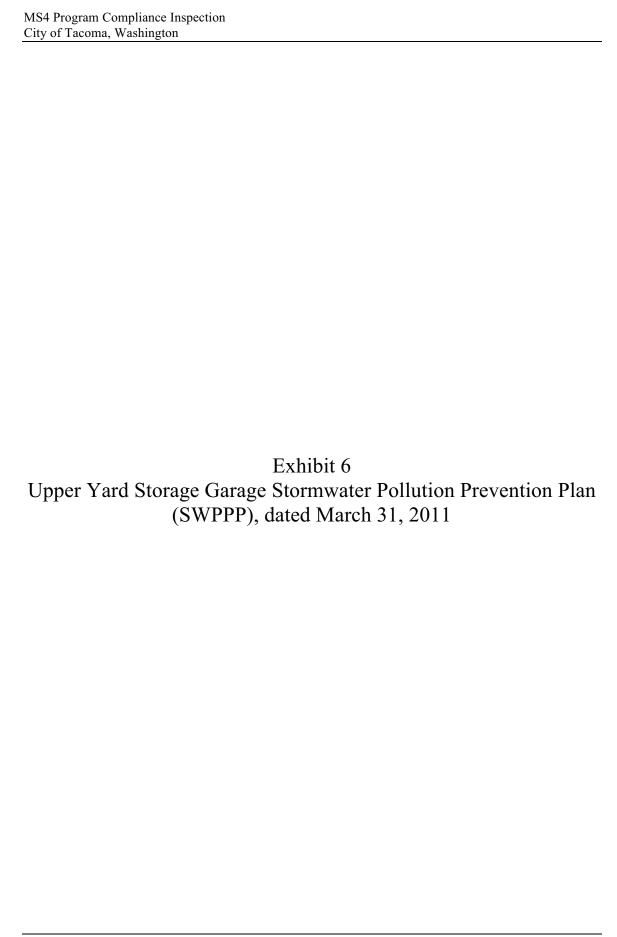
 If feasible, the storage area should be swept weekly for collection of stray soil, which can be added back to the piles or properly disposed. See BMP S102 for information on disposal options. Implement one of the following treatment BMPs in conjunction with a runoff containment plan:

Vegetated biofilter.

Equivalent BMP for the targeted pollutant (see Volume 5).

The use of any treatment BMP must not result in the violation of groundwater, surface water, wastewater, or drinking water quality standards.

This page is intentionally blank.





Stormwater Pollution Prevention Plan (SWPPP)

City of Tacoma
Streets and Grounds Maintenance Division
"Upper Yard"
2335 Jefferson Avenue
Tacoma, WA 98402

March 31st, 2011

This page is intentionally blank.

Table of Contents

Intro	Introduction			
1.0	Stor	mwater Pollution Prevention Plan	7	
	Pur	pose and Objectives		
	_	Legal Foundation	7	
	1.2	e	8	
	1.3	SWPPP Review, Revisions, and Implementation	8	
		Recordkeeping	9	
2.0	Faci	ility Description	11	
	2.1	Site Description	12	
	2.2	Map (Appendix A)	13	
		Inventory of Materials	13	
		Site History	14	
		Site Operation	16	
3.0	Ope	erational BMPs	17	
	3.1	Good Housekeeping	17	
	3.2	Employee SWPPP Training	20	
		Prohibitions of Practices	20	
	3.4	Regular Site Inspections	21	
4.0	Sour	rce Control BMPs	22	
	4.1	$BMP\ A103-$ Washing, Pressure Washing, and Steam Cleaning of Vehicles/Equipment/Building Structures	23	
	4.2	$BMP\ A401$ – Storage or Transfer (Outside) of Solid Raw Materials, By-products, or Finished Products	23	
	4.3	BMP A408 — Storage of liquids	23	
	4.4	BMP A409 — Parking and Storage for Vehicles and Equipment	23	
	4.5	BMP A 707 — De-Icing and Anti-Icing Operations for Streets and Highways	24	
		- Inspection Checklist	25 27	
Appendix C – Site Map				

This page is intentionally blank.

Introduction

Stormwater Pollution Prevention Plans (SWPPP) are usually written by environmental consulting firms to satisfy the legal obligations of their clients. Most of these plans end up on a shelf and are only reviewed, if at all, by someone at the management level. They are rarely read or understood by the people that have the greatest role in their implementation, the employee. With that in mind, this plan was written expressly for the men and women of Tacoma's Streets and Grounds Maintenance Division.

As you read this plan, you will invariably find some areas of technical information and legalese. There's just no way around it; it's a legal document. Unfortunately, even though it's important information that has to be included, it won't necessarily help you to do a better job of protecting surface water quality in the Upper Yard.

The information that will be most useful to you can be found in the Operational BMPs and Source Control BMPs. The information in these sections is *very* important and *must* be implemented. Some areas will be **bolded** and *italicized* so they stand out and get noticed. Pay careful attention to these areas and ask for clarification about anything that doesn't seem to make sense or that you just don't understand. It is vital to our success that each of us understands what is expected and that we accept personal responsibility for implementing this plan.

The bottom line is:

We are required to protect the surface water quality in the Upper Yard and we can get fined if we fail to implement this plan.

I hope you will enjoy reading this Stormwater Pollution Prevention Plan and I want to thank you in advance for your assistance and commitment to protecting our environment.

Sincerely,

Christopher Ott
Senior Environmental Specialist
City of Tacoma

This page is intentionally blank.

1.0 Stormwater Pollution Prevention Plan Purpose and Objectives

What is the purpose of a Stormwater Pollution Prevention Plan?

Water that falls from the sky as either snow or rain hits the pavement relatively clean and pure. Industrial maintenance yards like the City of Tacoma's Upper Yard are a hub of activity. A lot of these activities bring potential contaminants like street waste into the yard. At the same time, modern city maintenance shops like the Streets and Grounds Maintenance Division rely on heavy equipment and big trucks to complete the tasks at hand. Most of this equipment is powered by hydraulic oil under pressure. There are also fuels, lubricants, fertilizers, pesticides and complex chlorides (salt). The point is there are all kinds of ways to harm surface water. The goal of this plan is simply to keep it as clean as possible by minimizing its contact with pollutants. This SWPPP is the document that provides the framework for achieving that goal.

The major objectives of this SWPPP are:

- To identify pollutant sources and implement Best Management Practices that will minimize their contact with stormwater.
- To prevent violations of surface water quality
- To meet the expectations of our City Council who have said that maintaining City properties in a clean, attractive, sustainable, and efficient manner is a priority.

1.1 Legal Foundation

Effective February 16th of 2007, the Washington State Department of Ecology issued the current Phase I Municipal Stormwater Permit, a National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit, for discharges from Large and Medium Municipal Separate Storm Sewer Systems.

To comply with provisions of the State of Washington's Water Pollution Control Law (Chapter 90.48 Revised Code of Washington) and the Federal Water Pollution Control Act (The Clean Water Act) Title 33 United States Code, Section 1251 et seq., the City of Tacoma was compelled to apply for and is expected to adhere to all conditions of the NPDES Phase I Municipal Stormwater Permit.

The NPDES Phase I Municipal Stormwater Permit requires the City of Tacoma to develop and implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards and material storage facilities owned or operated by the City in areas subject to this permit that are not already covered by another Ecology issued stormwater discharge permit. The SWPPP contains information on all the Best Management Practices (BMPs) that will be employed at these facilities. The Division's Asphalt Plant is already regulated under a separate NPDES Sand and Gravel General Permit and is, therefore, not included in this plan.

1.2 SWPPP Location and Accessibility

This SWPPP will be maintained by the Streets and Grounds Maintenance Assistant Division Manager, Matthew Fengler (253-591-5060) in his office at 2324 South "C" Street, Tacoma, WA 98402. It is available for review during normal business hours, Monday through Friday from 7:30 to 4:00.

In addition, as author of this plan, the Environmental Compliance Support Group will maintain a master file at the Center for Urban Waters, 326 East "D" Street, Tacoma, WA 98421. For information, contact Christopher Ott, Sr. Environmental Specialist, at (253) 591-5929.

1.3 SWPPP Review, Revisions, and Implementation

The Assistant Division Manager will ensure this SWPPP is kept current and updated as necessary to reflect any changes to the facility operation. The SWPPP will also be amended through a process called Adaptive Management when monitoring, via site inspections, indicates the plan can be improved upon to protect surface water quality.

Adaptive Management is a philosophy that takes advantage of field experience and research to improve effectiveness over time. Thus, as we move to implement this plan, we will undoubtedly find areas that need improvement. Our adaptive management philosophy enables us to modify the plan so it becomes more effective.

The three basic components of an Adaptive Management program are:

- Compliance Monitoring
- Effectiveness Monitoring
- > Implementation of Changes

This SWPPP may be amended at any time by either the Assistant Division Manager or the Environmental Compliance Support Group. However, all revisions must be agreed upon by both parties prior to implementation.

1.4 Recordkeeping

The Assistant Division Manager will maintain a file for Environmental Compliance of the Upper Yard. The file will contain the SWPPP, copies of all inspection reports, and any other relevant documents, photos, or written correspondence. The Assistant Division Manager will apprise the Environmental Compliance Group of any enforcement actions or correspondence regarding this property from any regulatory agency.

The Assistant Division Manager, or his designee, will forward copies or electronic facsimiles of all inspection reports to the Environmental Compliance Group via email message to Christopher Ott at Cott@cityoftacoma.org or by interoffice courier to the Center for Urban Waters, 326 East D Street, Tacoma.

This page is intentionally blank.

2.0 Facility Description

General information related to this facility:

Owner Name: City of Tacoma Public Works Department

747 Market Street, Room 737 Tacoma, WA 98402-3701

Facility Name: Streets and Grounds Maintenance "Upper Yard"

Facility Address: 2335 Jefferson Avenue

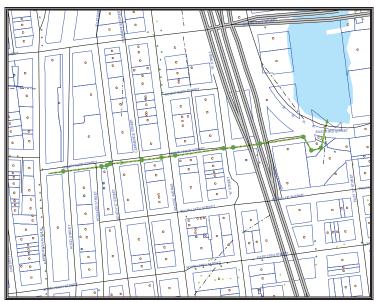
Tacoma, WA 98402

Parcel #: 2023080010

Parcel Area: 1.56 Acres (68,002 Sq Ft)

Drainage Basin: Foss Waterway – FS_07

Outfall: #237-A (see map below)



Stormwater route to Outfall #237-A

2.1 Site Description

The "Upper Yard" is located in the City of Tacoma's Historic Brewery District. The facility is situated at 2335 Jefferson Street and is bounded by the following streets:

North: South 23rd Street South: South 25th Street East: Hood Street

West: Jefferson Avenue

The terrain slopes to the east with the elevation of Jefferson Street being significantly higher than that of Hood Street. Nevertheless, the yard itself is graded relatively flat from north to south, while still draining to the east. Most of the site has been paved with asphalt and some areas have been covered with crushed rock. There are two covered equipment sheds and three fabric storage shelters. There are also several uncovered bins for temporary storage of rubble, soil, and vegetation.

The Burlington Northern Railroad (BNRR) owns a right-of-way along Hood Street, although their existing rail line is currently not in service. A recent decision by BNRR to vacate the line coincides with the transfer of a twenty-foot (20') wide easement within the right-of-way to the City of Tacoma for development and expansion of a walking trail to be constructed at a later date. See *Site History* for more information.

Adjacent to the BNRR rail line and Hood Street is an open drainage ditch that begins at South 25th and flows in a northerly direction to South 23rd Street before entering a piped stormwater conveyance system that discharges to the head of the Foss Waterway at outfall #237-A. This drainage ditch has been popular with some members of the community that harvest watercress and other aquatic weeds for personal consumption. The ditch receives most of its water from an underground aquifer that daylights in the southwest corner of the Upper Yard. This natural spring forms a small pond that discharges to the aforementioned drainage ditch. The Streets and Grounds Maintenance Division has been holding some of this water in a 3,500-gallon capacity aboveground tank for use in watering the hanging flower baskets downtown and to fill the division's street sweepers that use the water to reduce dust emissions while cleaning City streets.

The Upper Yard covers about one and a half acres and discharges to the drainage ditch below. There is one outfall pipe that discharges the water from the natural spring and another that discharges rainwater from the roof of the west equipment shed. The only catch basin on the property is in the floor of that same equipment shed. Although currently inoperative, this catch basin is believed to discharge to the drainage ditch, too. The water that falls between the equipment sheds tends to flow in a northerly direction to the sidewalk on South 23rd Street. There it turns down the hill and runs directly to the catch basin at the end of the drainage ditch. The site is essentially impervious and the majority of the surface water sheet flows toward the east, discharging to the drainage ditch.

There are obvious examples of the negative impacts that uncontrolled discharge of stormwater from this site has had on the drainage ditch. The side slopes of the ditch are severely eroded in places and some areas are totally lacking ground cover. Implementation of this plan will prevent similar damage from reoccurring and site restoration should be considered for some areas.

2.2 Site Map

The site map (see Appendix C) identifies stormwater drainage areas and discharge points as well as specific industrial activities that could impact stormwater quality.

2.3 Inventory of Equipment and Materials

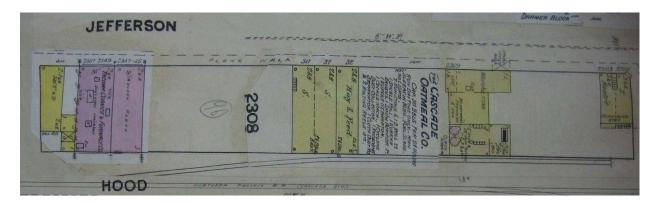
The inventory of equipment and materials is a list of those things at the site that are exposed to precipitation or run-off <u>and</u> have the potential to impact stormwater quality. These materials and equipment include, but are not limited to:

Road salt (NaCl)	Snow Plows
• Sand	 Road Graders
• Dirt	 Concrete Mix Truck
• Street waste	 Wheel Loaders
 Asphalt rubble 	 Fertilizer Spray Equipment
_	

2.4 Site History

It's important to consider the historical businesses and industries that have utilized the Upper Yard because it's not uncommon for businesses to leave behind a legacy of pollution long after they have moved on. This historical information can prove especially valuable when contamination is discovered and the source is not readily apparent. It's also important to consider the past because it increases our appreciation of the facility.

The Upper Yard has a long and storied history. The parcel was originally owned by the Tacoma Land Company, a wholly owned subsidiary of the Northern Pacific Railroad, and was designated as Block #2308 before it was subdivided and sold.

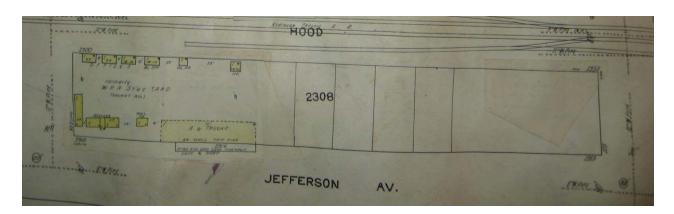


As you can see in the map above, taken from the Sanborn Fire Insurance Map of 1888, the north end of the property was originally occupied by a restaurant and rooming house, the central portion was home to the Cascade Oatmeal Company, and the south end of the property housed the Tacoma Cornice & Furnace Company.

It's well known that the Northern Pacific Railroad built the first transcontinental rail lines running to and from the City of Destiny. However, the hills surrounding downtown made it particularly hard for the trains to leave sea-level and ascend the steep grades, so the NPRR had to lay their tracks along an incline that traversed the hillside following a diagonal line. They called this spur the "Prairie Line" because it gave access to the South Tacoma prairie. These are the tracks running along Hood Street just below the Upper Yard. Both Hood Street and Jefferson Avenue parallel these tracks and that explains why they seem to run at an angle while all other roads trend north-south or east-west.

In1907, the Union Pacific Railroad decided they wanted to run trains here, too, but the NPRR refused to let them operate on NPRR's tracks unless they agreed to pay exorbitant rates for the privilege. The Union Pacific decided the best solution to the impasse was to dig a tunnel, thereby easing the grade. Work began in April of 1909 with 300 men digging round the clock from their starting point in the hillside below Jefferson Avenue, right in the middle of the Upper Yard.

Dubbed the "Big Bore" by local newsmen, workers struggled with the volume of groundwater that continually flooded the tunnel. Work was halted after just six months when the flow exceeded fifteen million gallons per day and only a half mile of tunnel had been completed. As a result, the Union Pacific agreed to pay NPRR for the right to use its tracks and the tunnel entrance was closed for good. The natural spring welling up in the southwest corner of the yard is the last visible remnant of this subterranean flow. This water has been tested several times by the State Department of Ecology but has never revealed any contaminants. *So, like the rain and snow falling from above, the water entering our property is clean and it's up to us to keep it that way.*



During the Great Depression of the 1930's, President Roosevelt created the Works Progress Administration (WPA) to provide employment to millions of Americans by engaging them in Public Works projects. In Tacoma, the WPA crews reported to work at the north end of what was then called the WPA Yard. Think about them the next time you see the wooden WPA sign hanging in the lunchroom.

In 1945, Pierce County sold the Upper Yard to the City of Tacoma for the sum of \$19,500.00 and it has been under the watchful eyes of the Streets and Grounds Maintenance Division ever since. This property is part of our heritage and we need to take good care of it.

2.5 Site Operation

The Upper Yard is integral to the fulfillment of the division's mission statement;

"To provide high quality innovative and cost effective maintenance to the City's Streets and Rights-of-Ways while providing the highest service level possible to the citizens of Tacoma. These services are designed to enhance the lives of our citizens, the quality of our neighborhoods and business districts."

Typical daily operation begins at 6:30 AM when the Trouble Truck Operator unlocks the gates to the Upper Yard and makes a cursory inspection of the facility. This is also when the first Supervisor arrives for work.

Throughout the day, City-owned trucks come to the Upper Yard to dump loads of soil, rubble, and/or debris. In addition, they use a front-end loader to maintain the asphalt/concrete rubble pile. During the winter, crews pick up loads of salt and sand or salt brine at all hours of the day or night responding to snow and ice concerns.

The normal workday ends at 4:00 PM and the after-hours Trouble Truck Operator locks the gates shortly afterward.



Caterpillar tractor pulling a City of Tacoma street grader, 1921. (Hans Sjoboen collection)

3.0 Operational BMPs

Site management practices that prevent or reduce the introduction of pollutants into stormwater are collectively known as "Operational BMPs". The operational BMPs currently in use at the Upper Yard are as follows:

- 3.1 Good housekeeping
- 3.2 Employee (SWPPP) training
- 3.3 Prohibition of practices
- 3.4 Regular site inspection and record-keeping
- 3.5 Routine maintenance

3.1 Good Housekeeping

Good housekeeping is the cornerstone of surface water quality protection. It is the single most important BMP because it does the best job of protecting water quality for the least amount of money. Good housekeeping begins at the entrance gates and continues throughout the entire facility. There is simply no better way to protect water quality. Visitors to the Upper Yard should always get a favorable first impression upon entering the property. First impressions form a lasting opinion of both the organization and its operation.

All employees must take an active role in keeping the yard clean.

Sweeping

The driveway, parking areas, and other paved surfaces must be swept regularly to prevent the accumulation of dust and dirt. The frequency of sweeping will vary depending on how dirty the yard appears. It might be necessary to sweep it every day or even several times a day if the trucks are tracking dirt or mud. The Streets and Grounds Maintenance Division has a 2004 Elgin 'Broom Bear' mechanical sweeper and a 2001 Elgin 'Crosswind' regenerative air sweeper for this purpose. Operators must engage all water sprinkler heads to minimize airborne dust when sweeping Streets and Grounds properties. In areas where the sweeper cannot get to, hand sweeping must be done often enough to prevent the accumulation of dust, dirt, or debris.

• Track Out

Track out is the name for visible dirt or mud that sticks to tires and is then "trackedout" onto a paved roadway surface. Track-out can occur when City trucks and equipment pass through dirty areas such as in front of the waste disposal bins for asphalt rubble, vegetation, and/or soil. If dirt is tracked onto the driving lane, call for a broom to clean it up. If there's mud on your tires, stop and clean them to the best of your ability.

When dumping a load at the Upper Yard always try to back up close to the pile without running the wheels into it. When pulling forward, try to finish dumping the load before pulling back into the driving lane.



Track Out

• Hydraulic and Motor Oil

Most of the trucks and other pieces of equipment stored in the Upper Yard have hydraulic reservoirs. There are also many attachments, such as snow plows, augers, and spinners that rely on hydraulics for their operation. Everyone who uses mobile hydraulic equipment knows that they're prone to leaks.

To reduce the amount of leakage:

- ➤ Always connect the male and female ends of hydraulic lines together when not in use.
- > Visually inspect all vehicles and equipment for oil leaks before starting the engine.

- > Do not top off fuel tanks when filling; spills can occur when fuel expands due to sunlight exposure.
- Clean up all leaks and spills immediately and report them to your supervisor.
- > City of Tacoma vehicles should not be leaking fluids, for any reason, at any time. Fix all leaks promptly.

Note: minor spotting on the pavement is an unfortunate and unpreventable reality of heavy equipment and large trucks. Use drip pans, absorbent pads, Absorbal® or similar products to capture small drips. Monitor the drip and report any increase as soon as it becomes apparent.

Spill Response

All spills must be reported to your supervisor and cleaned up immediately. There are covered containers of Absorbal®, or similar products made of diatomaceous clay, located throughout the Upper Yard that can be used to clean up or contain spills. These containers are green plastic trash cans with a paper label affixed to the lid denoting "Absorbal®". There is also a large light green or yellow comprehensive spill kit in the East Equipment Shed. This kit contains absorbent pads and booms, plastic bags, and personal protective equipment.

Any spills that leave the Upper Yard and enter the drainage ditch along Hood Street or that enter any catch basin *must be reported immediately!* Call the Environmental Services Source Control Pager at (253) 428-2721. You will be prompted to enter your call-back phone number. Enter your complete phone number and hang up. You will be contacted within 15 minutes or less. If you don't get a response, please call again. Still no response? Call (253) 581-5595.

Garbage and Waste Materials

Trash cans and dumpsters are located throughout the Upper Yard. They should be monitored and emptied regularly. Watch for any evidence of rodents and report it immediately to your supervisor. Pick up litter when you see it and dispose of it properly.

All trash cans and dumpsters must be covered or closed at all times to prevent contact with rain water.

• Integrated Pest Management

The City of Tacoma has established an Integrated Pest Management (IPM) program to guide its response to pests. Pests include such things as undesirable vegetation, rodents and insects. IPM is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. IPM programs use current, comprehensive information on the life cycles of pests and their interaction with the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment.

3.2 Employee SWPPP Training

All Streets and Grounds Maintenance Division employees will receive SWPPP training and updated information annually. The Division Training Representative shall keep and maintain a record of all SWPPP training.

3.3 Prohibition of Practices

Road Kill

Do not bring dead animals (a.k.a. road kill) to the Upper Yard. The City's Animal Control and Compliance staff will respond to reports of dead domestic animals and small wildlife. Contact them seven-days-a-week from 8:00 a.m. to 10:00 p.m. (24-hours a day for emergencies) at (253) 627-7387. Large carcasses of hoofed animals (deer) may be taken to the back door of the Humane Society for Tacoma & Pierce County at 2401 South 35th Street for disposal. Check with your supervisor first!

"Hot" Loads

Do not bring contaminated soil to the Upper Yard. The Sewer Transmission and Maintenance Division has a designated pad for "Hot Loads" at their Dock Street Yard and is permitted by the Tacoma-Pierce County Health Department Waste Management Section under Permit # 27-725.

Contact Madeline Malmgren at (253) 502-2149 for prior authorization. After hours, call the Standby Coordinator at pager (253) 396-8273.

Washing Vehicles

Do not wash vehicles or equipment in the Upper Yard. Use the wash pad at the north end of the truck barn on Holgate Street because it has an oil/water separator and discharges to the City's sanitary sewer system instead of the stormwater system.

3.4 Regular Site Inspection

Streets and Grounds properties shall be inspected by the Work Management Supervisor at least once each month or more often if necessary. Discrepancies shall be reported to the Assistant Division Manager, Matt Fengler. Discrepancies shall be rectified as soon as possible and the Work Management Supervisor shall report back to the Assistant Division Manager upon completion.

An inspection report template is attached as Appendix A. All inspection reports shall be reviewed by the Assistant Division Manager and scanned electronically before forwarding to the Environmental Compliance Group.

The Environmental Compliance Group will conduct unannounced and unscheduled inspections of the facility from time to time to ensure proper implementation of the plan. Results from these compliance monitoring inspections shall be sent to the Division Manager, John Gaddis, and his Assistant, Matt Fengler.

Any discrepancies noted during the Compliance Monitoring Inspections shall be rectified as soon as practicable, but no later than seven (7) calendar days from the date of inspection, and accompanied by a written response to the Environmental Compliance Group.

4.0 Source Control BMPs

As the name implies, Source Control BMPs are intended to reduce or minimize contact between contaminants and stormwater runoff by controlling them at the source. Source Control BMPs are physical, structural, or mechanical devices that are used to capture and retain pollutants before they begin to move away from their point of origin. In other words, they help to prevent pollution from contacting stormwater in the first place. Source Control BMPs can be found in Volume IV of the City of Tacoma's Surface Water Management Manual.

Many of these BMPs are common sense and "housekeeping" issues. For example, hand sweeping an indoor or outdoor work area instead of using a hose to wash it into a storm drain or other drainage conveyance. The use of source control BMPs is always the first line of defense in stormwater pollution prevention efforts for the following reasons:

- ➤ Most source control BMPs are relatively inexpensive and easy to implement.
- ➤ In the majority of cases, source control BMPs are all that is needed to prevent stormwater pollution problems.
- Removing pollutants from stormwater is very expensive and often ineffective. It may not be possible to remove 100% of the pollution from stormwater. It is much better to use source control BMPs and prevent the pollution from contacting stormwater in the first place.

The following Source Control BMPs were selected from The City of Tacoma's Surface Water Management Manual for implementation at the Upper Yard. The complete text of these BMPs is included as Appendix B.

BMP A103	Washing, Pressure Washing and Steam Cleaning of	
	Vehicles/Equipment/Building Structures	
BMP A401	Storage or Transfer (Outside) of Solid Raw Materials, By-Products	
	or Finished Products	

BMP A408	Storage of Liquids in Above-Ground Tanks	
	Parking and Storage for Vehicles and Equipment	
BMP A707	A707 De-Icing and Anti-Icing Operations for Streets and Highways	

A103 Washing, Pressure Washing and Steam Cleaning of Vehicles/Equipment/Building Structures

Vehicle washing, pressure washing, and steam cleaning are not allowed in the Upper Yard. Use the dedicated wash pad at the north end of the truck barn on Holgate Street. That pad drains to an oil/water separator that discharges to the City's sanitary sewer system instead of the stormwater system.

A401 Storage or Transfer (Outside) of Solid Raw Materials, Byproducts, or Finished Products

All stockpiles of asphalt rubble, vegetation, and dirt are greater than 5 cubic yards. Stockpiles are uncovered and situated upslope from a paved surface that sheet flows to a drainage ditch. Whenever practicable these piles should be covered.

A408 Storage of Liquids

Storage tank containment areas will be inspected regularly to identify problem components such as fittings, pipe connections, and valves, for leaks/spills, cracks, corrosion, etc. Tanks that are leaking or corroded or otherwise deteriorating will be replaced. All installations shall comply with the Uniform Fire Code and the National Electric Code.

A409 Parking and Storage for Vehicles and Equipment

Parked vehicles and equipment can be sources of toxic hydrocarbons and other organic compounds, oils and greases, metals, and suspended solids. Sweep (Vacuum sweeping is preferred) parking lots, storage areas, and driveways regularly to collect dirt, waste, and debris.

A707 De-Icing and Anti-Icing Operations for Streets and Highways

De-icing and/or anti-icing compounds are used on city streets to prevent the bond from forming between ice and pavement or to break that bond if it has already formed. De-icing and anti-icing compounds can become pollutants when they are conveyed to storm drains or to surface water after application. Leaks and spills of these chemicals can also occur during their handling and storage.

Streets and Grounds Maintenance Division

Upper Yard
Stormwater Compliance Inspection

	ОК	Needs Work
Check CB at South 21st (north end of drainage ditch)		П
Is the basin top clean?	_	-
Is there turbid water running down the sidewalk?		
Is there a visible sheen?		
Check entrance at S. 21 st		
 Is there any track-out 		
Check driving lane between equipment sheds		
 Does it need sweeping? 		
Check storage rack for augers/spinners		
Are there any leaks?		
 Are hydraulic hoses connected? 		
 Is the floor clean around storage area? 		
Check both storage sheds		
 Are there any leaks around equipment? 		_
Is the floor clean?		
Is there any trash present?		
Check Bobcat® attachments		
 Are there any leaks? 		
 Are hydraulic hoses connected? 		
 Is the floor clean around storage area? 		
Check Salt Brine machine and tank		
Are there any leaks?		
 Are all pipes and valves secured? 		
Check all trash cans		
 Do cans need to be emptied? 		ш
 Are all cans covered and protected from rain? 		
Check pond in southwest corner of yard		
Is there a visible sheen?		_
Is the CB by the water storage tank clean?		
Is the water storage tank leaking?		
Check drainage ditch along RR Tracks (Hood Street)		
Is there any new erosion?	Ш	ш
Is there a visible sheen?		
 Pay particular attention for discharge points. 		
	Check CB at South 21 st (north end of drainage ditch) Is the basin top clean? Is there turbid water running down the sidewalk? Is there a visible sheen? Check entrance at S. 21 st Is there any track-out Check driving lane between equipment sheds Does it need sweeping? Check storage rack for augers/spinners Are there any leaks? Are hydraulic hoses connected? Is the floor clean around storage area? Check both storage sheds Are there any leaks around equipment? Is the floor clean? Is the floor clean? Are there any trash present? Check Bobcat® attachments Are there any leaks? Are hydraulic hoses connected? Is the floor clean around storage area? Check Salt Brine machine and tank Are there any leaks? Are all pipes and valves secured? Check all trash cans Do cans need to be emptied? Are all cans covered and protected from rain? Check pond in southwest corner of yard Is there a visible sheen? Is the CB by the water storage tank clean? Is there any new erosion? Is there any new erosion?	Check CB at South 21 st (north end of drainage ditch) Is the basin top clean? Is there a visible sheen? Check entrance at S. 21 st Is there any track-out Check driving lane between equipment sheds Does it need sweeping? Check storage rack for augers/spinners Are there any leaks? Are hydraulic hoses connected? Is the floor clean around storage area? Check both storage sheds Are there any leaks around equipment? Is the floor clean? Is there any trash present? Check Bobcat® attachments Are there any leaks? Are hydraulic hoses connected? Is the floor clean around storage area? Check Bobcat® attachments Are there any leaks? Are any leaks? Are any leaks? Are all pipes and valves secured? Check Salt Brine machine and tank Are there any leaks? Are all pipes and valves secured? Check all trash cans Do cans need to be emptied? Are all cans covered and protected from rain? Check pond in southwest corner of yard Is there a visible sheen? Is the CB by the water storage tank clean? Is the water storage tank leaking? Check drainage ditch along RR Tracks (Hood Street) Is there an visible sheen?

(OVER)

Comments or Corrective Actions Required:		
Corrective Actions Taken:		
5		
<u>~</u>		
2		
Inspected by:		
	Date:	

Appendix C Source Control BMPs (Excerpted from Surface Water Manual)

A103 - Washing, Pressure Washing and Steam Cleaning of Vehicles/Equipment/Building Structures

Description of Pollutant Sources: Vehicles, aircraft, vessels, carpet cleaning, and industrial equipment, and large buildings may be commercially cleaned with low or high pressure water or steam. This includes frequent "charity" car washes at gas stations and commercial parking lots. The cleaning can include hand washing, scrubbing, sanding, etc. Washwater from cleaning activities can contain oil and grease, suspended solids, heavy metals, soluble organics, soaps, and detergents that can contaminate stormwater.

Pollutant Control Approach: The preferred approach is to cover and/or contain the cleaning activity, or conduct the activity inside a building, to separate the uncontaminated stormwater from the pollutant sources. Washwater must be conveyed to a sanitary sewer after approval by the City of Tacoma, temporarily stored before proper disposal, or recycled, with no discharge to the ground, to a storm drain, or to surface water. Washwater may be discharged to the ground after proper treatment in accordance with Ecology guidance WQ-R-95-56, "Vehicle and Equipment Washwater Discharges," June 1995. The quality of any discharge to the ground after proper treatment must comply with Ecology's Ground Water Quality Standards, Chapter 173-200 WAC. Contact the local Ecology Regional Office for an NPDES Permit application for discharge of Washwater to surface water or to a storm drain after onsite treatment.

Required BMPs:

Conduct vehicle/equipment washing in one of the following locations:

 At a commercial washing facility in which the washing occurs in an enclosure and drains to the sanitary sewer, or In a building constructed specifically for washing of vehicles and equipment, which drains to a sanitary sewer.

Conduct outside washing operation in a designated wash area with the following features:

- In a paved area, constructed as a spill containment pad to prevent run-on of stormwater from adjacent areas. Slope the spill containment area so that washwater is collected in a containment pad drain system with perimeter drains, trench drains or catchment drains. Size the containment pad to extend out a minimum of four feet on all sides of the vehicles and/or equipment being washed.
- Convey the washwater to a sump (like a grit separator) and then to a sanitary sewer (if allowed by the City of Tacoma), or other appropriate wastewater treatment or recycle system. An NPDES permit may be required for any washwater discharge to a storm drain or receiving system after treatment. Contact the Ecology Regional Office for NPDES Permit requirements.
- The containment sump must have a positive control outlet valve for spill control with live containment volume, and oil/water separation. Size the minimum live storage volume to contain the maximum expected daily washwater flow plus the sludge storage volume below the outlet pipe. The outlet valve will be shut during the washing cycle to collect the washwater in the sump. The valve should remain shut for at least two hours following the washing operation to allow the oil and solids to separate before discharge to a sanitary sewer. (See Ecology Publication WQ-R-95-56)

Note that the purpose of the valve is to convey only washwater and contaminated stormwater to a treatment system.

The inlet valve in the discharge pipe should be closed when washing is not occurring, thereby preventing the entry of uncontaminated stormwater into the pretreatment/ treatment system. The stormwater can then drain into the conveyance/discharge system outside of the wash pad (essentially bypasses the washwater treatment/conveyance system). Post signs to inform people of the operation and purpose of the valve. Clean the concrete pad thoroughly until there is no foam or visible sheen in the washwater prior to closing the inlet valve and allowing uncontaminated stormwater to overflow and drain off the pad (see Figure 4.1).

Collect the washwater from building structures and convey it to appropriate treatment such as a sanitary sewer system if it contains oils, soaps, or detergents, where feasible. If the washwater does not contain oils, soaps, or detergents then it could drain to soils that have sufficient natural attenuation capacity for dust and sediment.

Recommended Additional BMPs

- The wash area should be well marked at gas stations, multi-family residences and any other business where non-employees wash vehicles.
- For uncovered wash pads, the positive control outlet valve may be manually operated, but a pneumatic or electric valve system is preferable. The valve may be on a timer circuit where it is opened upon completion of a wash cycle. The timer would then close the valve after the sump or separator is drained (Figure 4.1).
- Use phosphate-free biodegradable detergents when practicable.
- Consider recycling the washwater.
- Because soluble/emulsifiable detergents can be used in the wash medium, the selection of soaps and detergents and treatment

BMPs should be considered carefully. Oil/water separators are ineffective in removing emulsified or water-soluble detergents.

Exceptions

- At commercial parking lots, where it is not possible to discharge the washwater to a sanitary sewer, a temporary plug or a temporary sump pump can be used at the storm drain to collect the washwater for off-site disposal such as to a nearby sanitary sewer.
- Charity car washes are not allowed to discharge dirty wash water to the storm drain. Prior to holding a charity car wash, contact the City of Tacoma for information about proper car washing procedures and to find out about utilizing a Clean Bay Car Wash loaner kit.
- New and used car dealerships may wash vehicles in the parking stalls as long as a temporary plug system is used to collect the washwater for disposal as stated above, or an approved treatment system for the washwater is in place.

At industrial sites contact the local Ecology Regional Office for NPDES Permit requirements even if soaps, detergents, and/or other chemical cleaners are not used in washing trucks.

BMP A401: Storage or Transfer (Outside) of Solid Raw Materials, By-Products or Finished Products

Description of Pollutant Sources: Solid raw materials, by-products, or products such as gravel, sand, salts, topsoil, compost, logs, sawdust, wood chips, lumber and other building materials, concrete, and metal products are typically stored outside in large piles, stacks, etc. at commercial or industrial establishments. Contact of outside bulk materials with stormwater can cause leachate and/or erosion of the stored materials. Contaminants may include TSS, BOD, organics, and dissolved salts (sodium, calcium, magnesium chloride, etc).

Pollutant Control Approach: Provide impervious containment with berms, dikes, etc. and/or cover to prevent run-on and discharge of leachate, pollutant(s) and TSS.

BMPs

- Do not hose down the contained stockpile area to a storm drain or other conveyance leading to a storm drain or receiving water.
- Choose one or more of the source control BMP options listed below for stockpiles greater than 5 cubic yards of erodible or water soluble materials such as soil, road deicing salts, compost, unwashed sand and gravel, sawdust, etc. or for outside storage areas for solid materials such as logs, bark, lumber, metal products, etc.:
 - Store in a building or paved and bermed covered area as shown in Figure 116.
 - Place temporary plastic sheeting (polyethylene, polypropylene, hypalon, or equivalent) over the material as shown in Figure 117.

OR

- Pave the area and install a stormwater drainage system. Place curbs or berms along the perimeter of the area to prevent the run-on of uncontaminated stormwater and to collect and convey runoff to treatment. Slope the paved area in a manner that minimizes contact between stormwater (e.g., pooling) and leachable materials in compost, logs, bark, wood chips, etc.
- For large stockpiles that cannot be covered, implement containment practices at the perimeter of the site and at any catch basins as needed to prevent erosion and discharge of the stockpiled material offsite or to a storm drain. Ensure that contaminated stormwater is not discharged

directly to catch basins without being conveyed through a treatment BMP. For log yards see Ecology publication, "Prevent Stormwater Pollution at Log Yards/Best Management Practices," 95-053 "Industrial Stormwater General Permit Implementation Manual for Log Yards:, publication # 04-10-031.

• Convey contaminated stormwater from the stockpile area to a wet pond, wet vault, settling basin, media filter, or other appropriate treatment system, depending on the contaminate.

Recommended BMPs:

- Maintain drainage areas in and around storage of solid materials with a minimum slope of 1.5 percent to prevent pooling and minimize leachate formation. Areas should be sloped to drain stormwater to the perimeter where it can be collected, or to internal drainage "alleyways" where material is not stockpiled.
- Sweep paved storage areas regularly for collection and disposal of loose solid materials.
- If and when feasible, collect and recycle water-soluble materials (leachates) to the stockpile.
- Stock cleanup materials such as brooms, dustpans, and vacuum sweepers near the storage area.

A401 BMPs for Storage or Transfer (Outside) of Solid Raw Materials, By-products, or Finished Products

Description of Pollutant Sources: Solid raw materials, by-products, or products such as gravel, sand, salts, topsoil, compost, logs, sawdust, wood chips, lumber and other building materials, concrete, and metal products sometimes are typically stored outside in large piles, stacks, etc. at commercial or industrial establishments. Contact of outside bulk materials with stormwater can cause leachate, and erosion of the stored materials. Contaminants include TSS, BOD, organics, and dissolved salts (sodium, calcium, and magnesium chloride, etc.).

Pollutant Control Approach: Provide impervious containment with berms, dikes, etc. and/or cover to prevent run-on and discharge of leachate pollutant(s) and TSS.

Required BMPs

- Do not hose down the contained stockpile area to a storm drain or a conveyance to a storm drain or to receiving water.
- Choose one or more of the source control BMP options listed below for stockpiles greater than 5 cubic yards of erodible or water soluble materials such as soil, road deicing salts, compost, unwashed sand and gravel, sawdust, etc. Also included are outside storage areas for solid materials such as logs, bark, lumber, metal products, etc.
- Store in a building or paved and bermed covered area, or;
- Pave the area and install a stormwater drainage system. Place curbs or berms along the perimeter of the area to prevent the run-on of uncontaminated stormwater and to collect and convey runoff to treatment. Slope the paved area in a manner that minimizes the contact between stormwater (e.g., pooling) and leachable materials in compost, logs, bark, wood chips, etc.

- For large stockpiles that cannot be covered, implement containment practices at the perimeter of the site and at any catch basins as needed to prevent erosion and discharge of the stockpiled material offsite or to a storm drain. Ensure that contaminated stormwater is not discharged directly to catch basins without being conveyed through a treatment BMP.
- Convey contaminated stormwater from the stockpile area to a wet pond, settling basin, media filter, or other appropriate treatment system depending on the contamination.

Recommended BMPs

- Maintain drainage areas in and around storage of solid materials with a minimum slope of 1.5 percent to prevent pooling and minimize leachate formation. Areas should be sloped drain stormwater to the perimeter where it can be collected or to internal drainage "alleyways" where material is not stockpiled.
- Sweep paved storage areas regularly for collection and disposal of loose solid materials.
- If and when feasible, collect and recycle water-soluble materials (leachates) to the stockpile.
- Stock cleanup materials, such as brooms, dustpans, and vacuum sweepers near the storage area.

A408 Storage of Liquids

Description of Pollutant Sources: Above-ground tanks containing liquids (excluding uncontaminated water) may be equipped with a valved drain, vent, pump, and bottom hose connection. They may be heated with steam heat exchangers equipped with steam traps. Leaks and spills can occur at connections and during liquid transfer. Oil and grease, organics, acids, alkalis, and heavy metals in tank water and condensate drainage can also cause stormwater contamination at storage tanks.

Pollutant Control Approach: Install secondary containment or a double-walled tank. Slope the containment area to a drain with a sump. Stormwater collected in the containment area may need to be discharged to treatment such as an API or CP oil/water separator, or equivalent BMP. Add safeguards against accidental releases including protective guards around tanks to protect against vehicle or forklift damage, and tagging valves to reduce human error. *Tank water and condensate discharges are process wastewater that may need an NPDES Permit.*

Required BMPs

- Inspect the tank containment areas regularly to identify problem components such as fittings, pipe connections, and valves, for leaks/spills, cracks, corrosion, etc.
- Place adequately sized drip pans beneath all mounted taps and drip/spill locations during filling/unloading of tanks.
 Valved drain tubing may be needed in mounted drip pans.
- Sweep and clean the tank storage area regularly, if paved.
- Replace or repair tanks that are leaking, corroded, or otherwise deteriorating.
- All installations shall comply with the Uniform Fire Code and the National Electric Code.
- Locate permanent tanks in impervious (Portland cement concrete or equivalent) secondary containment surrounded by dikes, or UL Approved double-walled. The dike must be

of sufficient height to provide a containment volume of either 10 percent of the total enclosed tank volume or 110 percent of the volume contained in the largest tank, whichever is greater, or, if a single tank, 110 percent of the volume of that tank.

- Slope the secondary containment to drain to a dead-end sump (optional), or equivalent, for the collection of small spills.
- Include a tank overfill protection system to minimize the risk of spillage during loading.
- If the tank containment area is uncovered, equip the outlet from the spill-containment sump with a shutoff valve, which is normally closed and may be opened manually or automatically, only to convey uncontaminated stormwater to a storm drain. Evidence of contamination can include the presence of visible sheen, color, or turbidity in the runoff, or existing or historical operational problems at the facility. Simple pH measurements with litmus or pH paper can be used for areas subject to acid or alkaline contamination.
- At petroleum tank farms, convey stormwater contamination with floating oil or debris in the contained area through an API or CP-type oil/water separator (Volume V, Treatment BMPs), or other approved treatment prior to discharge to storm drain or surface water.

BMP A409: Parking and Storage for Vehicles and Equipment

Description of Pollutant Sources: Parked vehicles at public and commercial parking lots and garages, such as retail store, fleet vehicle (including rent-a-car lots and car dealerships), equipment sale and rental parking lots, and parking lot driveways, can be sources of toxic hydrocarbons and other organic compounds, oils and greases, metals, and suspended solids.

Required BMPs

- If washing of a parking lot is conducted, discharge the washwater to a sanitary sewer (if allowed by the City of Tacoma) or other approved wastewater treatment system, or collect it for off-site disposal.
- Do not hose down the area to a storm drain or receiving water. Sweep (vacuum sweeping is preferred) parking lots, storage areas, and driveways regularly to collect dirt, waste, and debris.
- An oil removal system such as an API or CP oil and water separator, catch basin filter, or equivalent BMP (see Volume 5), approved by the City of Tacoma, is applicable for parking lots meeting the threshold vehicle traffic intensity level of a high-use site. For more information on high-use sites, refer to Volume 5, Chapter 1.
- Covered floors of parking garages must drain to the sanitary sewer through an approved oil/water separator. Uncovered floors must be routed to the storm drainage system through an approved treatment device.

BMP A707: De-Icing and Anti-Icing Operations for Streets & Highways

Description of Pollutant Sources: Deicing and/or anti-icing compounds are used on highways, streets, and sidewalks to control ice and snow. Typically ethylene glycol and propylene glycol are deicers used on aircraft. Deicers commonly used on highways, streets and sidewalks include calcium magnesium acetate (CMA), calcium chloride, magnesium chloride, sodium chloride, urea, and potassium acetate. The deicing and anti-icing compounds become pollutants when they are conveyed to storm drains or to surface water after application. Leaks and spills of these chemicals can also occur during their handling and storage.

Required BMPs

- Select de-icers and anti-icers that cause the least adverse environmental impact. Apply only as needed using minimum quantities.
- Where feasible and practicable, use roadway deicers, such as calcium magnesium acetate, potassium acetate, or similar materials that cause less adverse environmental impact than urea and sodium chloride.
- Store and transfer de/anti-icing materials on an impervious containment pad in accordance with BMP A401 Storage or Transfer (Outside) of Solid Raw Materials, By-Products, or Finished Products and A408 Storage of Liquids in Above-Ground Tanks.
- Sweep/clean up accumulated de/anti-icing materials and grit from roads as soon as possible after the road surface clears.

Recommended BMPs

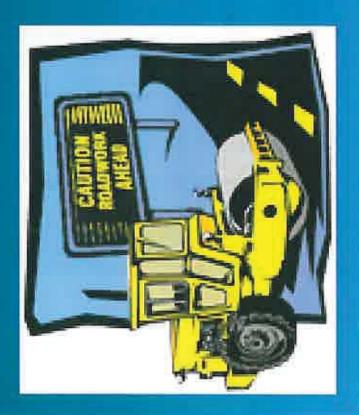
- Intensify roadway cleaning in early spring to help remove particulates from road surfaces.
- Include limits on toxic metals in the specifications for de/anti-icers.
- Additional guidance can be found in the Regional Road Maintenance -Endangered Species Act (ESA) program guidelines.
- State guidelines contain additional information for de-icing activities at airports.

This page is intentionally blank.

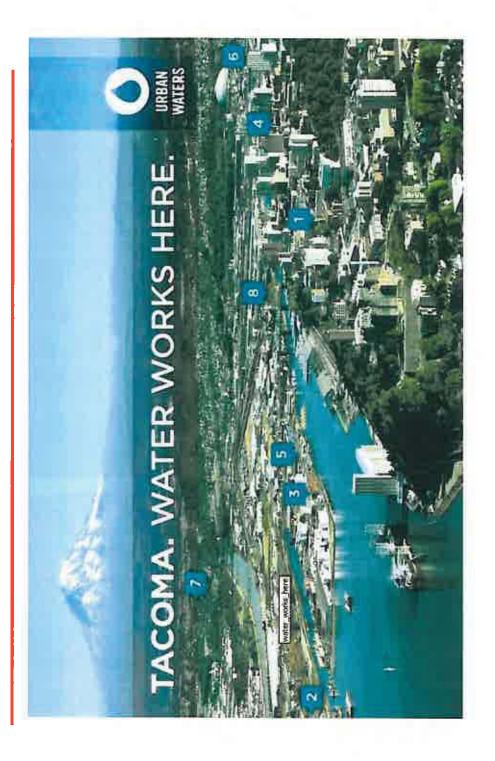
Exhibit 7 Streets and Grounds' UPPER YARD Stormwater Pollution Prevention Plan Training Presentation

Prevention Plan cormwater Pollution

Streets and Grounds'
UPPER YARD

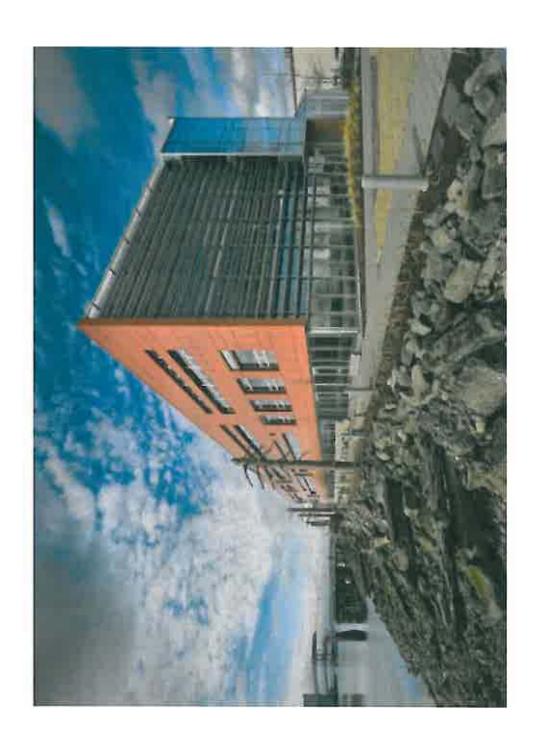


State-of-the-science Resources Join World Class Talen



www.waterworkshere.org

Center for Urban Waters



Purpose and Objectives

- The major objectives of this SWPPP are:
- Best Management Practices that will minimize To identify pollutant sources and implement their contact with stormwater.
- To prevent violations of surface water quality.
- To meet the expectations of our City Council who have said that maintaining City properties in a clean, attractive, sustainable, and efficient manner is a priority.

Legal Foundation

- NPDES Phase I Municipal Stormwater Permit
- Stormwater Management Plan
- Stormwater Pollution Prevention Plans
- Tacoma Municipal Code 12.08

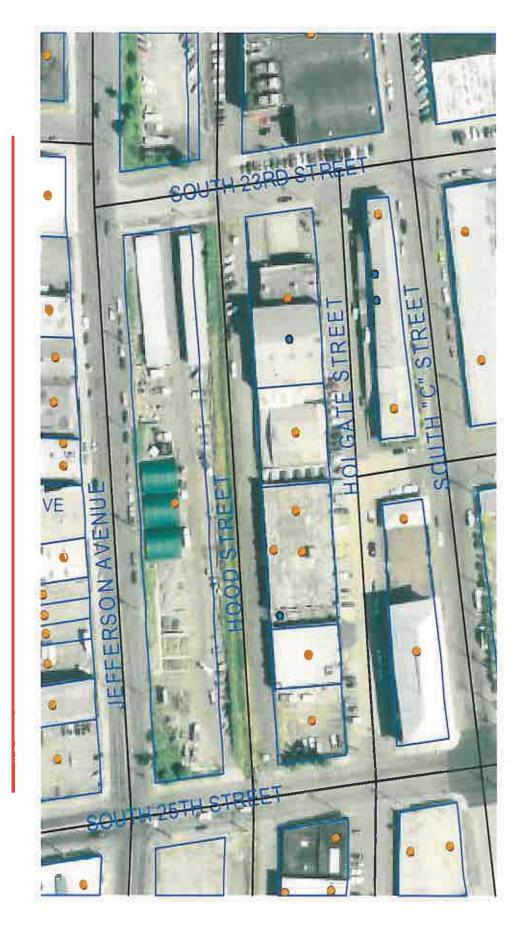


Adaptive Management

Basic components of adaptive management programs

- Compliance monitoring
- Effectiveness monitoring
- Implementation of changes

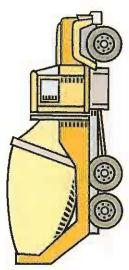
Site Map



nventory of Equipment & Materials

- Road salt (NaCl)
- Sand
 - Dirt
- Street waste
- Asphalt rubble





Concrete Mix Truck

Road Graders

Snow Plows

Fertilizer Spray Equipment Wheel Loaders







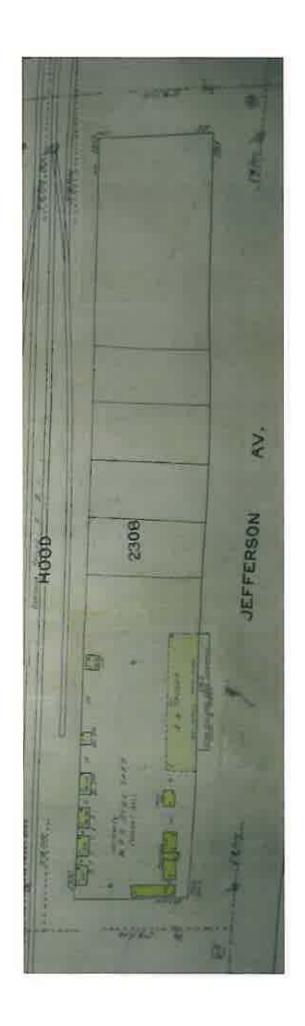


Site History



Sanborn Fire Insurance map

Site History



Sanborn Fire Insurance map

Site Operation

Tacoma. These services are designed to enhance the lives of our Citizens, the quality of our neighborhoods and business districts." providing the highest service level possible to the citizens of "To provide high quality innovative and cost effective maintenance to the City's Rights-of-Way while

Site Operation



Operational BMPs

- Good Housekeeping
- Employee (SWPPP) Training
- Prohibition of Practices
- Regular Site Inspections and Record-keeping
- Routine Maintenance

Good Housekeeping

- All employees must take an active role in keeping the yard clean.
- Paved surfaces must be swept regularly.
- NO TRACK OUT!
- All trash cans and dumpsters must be covered or closed to prevent contact with rain water.

Leaks, Drips, and Spills

- Always connect the ends of hydraulic lines together when not in use.
- Visually inspect all vehicles and equipment for oil leaks.
- Don't top off fuel tanks.
- Clean up all leaks and spills immediately.
- City of Tacoma vehicles should not be leaking fluids for any reason at any time. Fix all leaks promptly.

Spill Response

- All spills must be cleaned up immediately.
- drainage ditch along Hood Street or that enters any Any spill that leaves the Upper Yard or enters the catch basin must be reported immediately!
- Call the Environmental Source Control pager (253) 428-2721

Employee SWPPP Training



Prohibition of Practices

Don't bring road kill to the Upper Yard

Don't bring "Hot" loads to the Upper Yard

Don't wash trucks or equipment in the Upper Yard

Regular Site Inspection



Source Control BMPs

- Steam Cleaning of Vehicles/equipment/Building • BMP A103 – Washing, Pressure Washing and Structures
- BMP A401 Storage or Transfer (Outside) of Solid Raw Materials, By-products, or Finished Products
- BMP A408 Storage of Liquids in Above-Ground **Tanks**
- BMP A409 Parking and Storage for Vehicles and Equipment
- BMP A707 De-Icing and Anti-Icing Operations for Streets and Highways

Thank You

Have a nice day!

